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ABSTRACT

The effect of academic advising on perceptions of relevance by students from two developing countries in East Africa (Tanzania and Malawi) was studied through a survey. The dependent variable was relevance of education to career goals and to national agricultural development goals. The presence and/or adequacy of academic advising was the independent variable. The effect of three extraneous variables--gender, age, and type of employment--was also examined. An instrument was developed for the Tanzanians and then adapted with the Malawians. Individuals who earned a master's or doctoral degree in agriculture from a U.S. institution were identified in both countries and surveyed. Of the 99 surveys sent to Tanzanians, 86 were returned; 58 of 73 Malawians responded. Results were as follows: (1) U.S. graduate education in agriculture was more relevant to students' career goals than to their countries' national development goals; (2) presence or adequacy of academic advising did not affect perceptions of relevance; and (3) Tanzanians found their graduate education to be significantly more relevant to national goals than did Malawians. No significant differences were noted for gender and age. Type of employer did significantly affect perceptions. Two exhibits, 20 figures, 18 tables, 73 references, and 3 appendices (Tanzanian Sample Survey, Malawian Sample Survey, and Malawian Training Policy) are included. (NLA)

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THE EFFECT OF ACADEMIC ADVISING AND DEMOGRAPHIC VARIABLES ON THE PERCEIVED RELEVANCE OF GRADUATE EDUCATION FOR AGRICULTURALISTS FROM TANZANIA AND MALAWI

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by

STEVEN D. AAGARD

A thesis submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ADULT AND CONTINUING EDUCATION

WASHINGTON STATE UNIVERSITY
Department of Adult and Youth Education

December, 1991

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To the Faculty of Washington State University

The members of the Committee appointed to examine the thesis of STEVEN D. AAGARD find it satisfactory and recommend that it be accepted.

Thomas F Dail
Chair

Harry B Burcalow

Ronald M Jimmerson

ACKNOWLEDGMENT

I would like to acknowledge my loving wife, Tammy. Without her, I know this thesis would not have been possible. Her typing and editing helped to bring this together, even though there were times when she remarked, "What now?!!" Her fervent encouragement and support allowed me to further my education.

I would like to thank Jim Long, without whom I would not have ventured to Washington State. Jim is very special and I respect him immensely. He always had my best interest at heart and provided me with opportunities to be challenged and grow. I have learned a lot from him and have enjoyed working with him and sharing ideas.

My thanks to Tom Trail for making this Wyoming boy feel like part of the group. His experience in the international theater added invaluable insight into the educational process of international students and the importance of relevant education. (He also likes those Wyoming Chip Chuckers.)

One of the ways that I can best describe Ron Jimmerson is that he is a true adult educator. His ability to see the best in people and to help them realize their potential is admirable. His door was always open and he gave me good advice on my thesis. He could see the humor in almost any situation and tolerated my sense of humor. I have the highest regard for him both professionally and personally. (He's also a snappy dresser.)

I would like to thank Harry Burcalow for his guidance and concern for me. Harry was the first extension administrator that I met at WSU and his

comments reaffirmed my decision to pursue a career in cooperative extension. He has taken time out of his busy schedule to meet with me and to ask the tough questions on my thesis. I thank him for adding perspective to the topic and providing me with an administrator's point of view.

Special thanks to the Program in Statistics employees who helped me develop and compute the statistical analysis of the data for this study: Sung K. Ahn, Marc C. Evans, and Wayne S. Tate. Also, Paul A. Svaren for his help with the computer generated maps and data for the two countries analyzed.

I would like to acknowledge the individuals who greatly added to my program of study. Betty Lea Trout, with her ever-present smile and words of encouragement made me feel good about myself. She's a real spark plug! My friends in the trenches, Cathy Day, Rene Overath, Dean Gibson, Stace Houk, John Barningham, Marita Johnson, and others, were also there through the good times and not so good times. Thanks again for your friendship and support.

Finally, I would like to say that it has been a struggle getting this thesis approved by every Tom, Ron, and Harry on my committee.

THE EFFECT OF ACADEMIC ADVISING AND DEMOGRAPHIC VARIABLES ON THE PERCEIVED RELEVANCE OF GRADUATE EDUCATION FOR AGRICULTURALISTS FROM TANZANIA AND MALAWI

Abstract

by Steven D. Aagard, M.A.C.Ed.
Washington State University
December, 1991

Chair: Thomas F. Trail

Education has been closely associated with the success of development projects in Lesser Developed Countries around the world. Helping these countries to achieve the critical mass of educated people needed to plan and sustain development has been a mission in which U.S. universities have played a vital part. Central to the success of U.S. universities in educating and training individuals from developing countries is the issue of relevance of that education to the needs of development.

This study sought to determine the effect of academic advising on perceptions of relevance by students from two developing countries in East Africa, Tanzania and Malawi. The issue of relevance was separated into two areas: relevance of education to career goals and to national agricultural development goals. These two areas were identified as the dependent variables. The presence and/or adequacy of academic advising was identified as the independent variable. In addition, the effect of three extraneous variables, gender, age and type of employment, was also examined.

An instrument was developed by David Acker (1988) for use with the original Tanzanian sample. The same instrument was adapted for use with the Malawian individuals. Individuals who had earned a master's or doctoral degree in agriculture from a U.S. institution were identified in both countries and surveyed. The demographic characteristics, social/political environment and perceptions of relevance were compared between the two samples. The samples were aggregated to examine the effect of academic advising and the three demographic variables.

Results indicated that there were no significant differences in perceptions of relevance of U.S. graduate education to career goals based on the presence and/or adequacy of academic advising. There was also no significant difference in relevance of the educational experience to career goals based on the gender, age and type of employer. With respect to relevance of graduate education to national agricultural development goals, it was found that the presence and/or adequacy of academic advising did not significantly affect relevance. No significant differences were noted for the extraneous variables of gender and age. However, type of employer did significantly affect perceptions of relevance of graduate education to national agricultural development goals.

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Dedication

This thesis is dedicated to the memory of my two grandfathers.

Niels Orlando Aagard

Who loved me for who I am and gave me support, encouragement and direction. In his passing, I lost immensely.

George Stanley Adams

Who loved and believed in me. Who also introduced me to the joy of reading and schooled me in the English language.

Both enriched my life and remain in my fondest memories, forever.

Chapter 1

Introduction

Background on Development

Technological advances in the areas of communications and travel have made the world a much smaller place. No longer are the economies of the nations independent of the world market. Each nation is linked to the rest of the world through agricultural, technological, commercial, and educational product exchanges. In order for less developed countries to begin to take part in this exchange, concerted efforts have been made to help developing countries gain the critical mass of educated people to develop their own educational and agricultural programs. In our ever-changing world, the gap between the "haves" and "have nots" is widening due to the speed of technological change.

During the past decade, developing countries have invested more than two billion dollars in training their nationals. This training is aimed at upgrading skills and building organizational capacity through in-country and long-term, off-shore training. Richard Clough, Regional World Bank Agricultural Training Specialist for the African Desk, estimates that World Bank, United States Agency for International Development (U.S.A.I.D.), and other donors have invested more than $500,000,000 in manpower development since 1980 (Trail, 1990). For example, major donors have invested in Malawi, with the majority of the funds in long-term, off-shore training primarily at the M.Sc. and Ph.D. level. Some 75 officers from the

Ministry of Agriculture (MOA) have been sponsored by U.S.A.I.D. since 1980. Many Malawian, as well as U.S.A.I.D., officers are vitally interested in the impact of the training. A central question pertains to the relevance of the training to both the individual and the agricultural development of Malawi. The U.S.A.I.D. position was well articulated by the Mission Director Carol Peasley in 1989 when she said, " It is essential to determine both quantitatively and qualitatively the impact of the Mission's long term commitment to M.Sc. and Ph.D. training of MOA officers in the U.S. One of the first steps is to view the training in terms of its relevance and impact on the agricultural development of Malawi."

Providing relevant education and training is the goal of the U.S. universities that serve these students. Paul Huntsberger defined the concept of relevance in training as being a "mosaic, with many little pieces that somehow fit into a complete picture." (Tregear, 1988). Each piece must be defined and then refined to the needs of the student, the developing country, and the sponsoring agency.

One definition of relevance which attempts to fit the pieces of the mosaic together is as follows:

> Relevance is the:
>
> way in which knowledge can be adapted to the need and conditions in the developing country given the goals of that developing country, the goals of the individual and the intentions of the sponsoring agency (Jenkins, ed., 1980).

This definition addresses the three major stakeholders in the training process and acknowledges that each has their own agenda which may or may not overlap with the others. Research continues to help to define the elements of relevance which can then be applied to training/educational situations. This research has been designed to not only define the abstract concept of relevance, but also to quantify it.

One attempt to quantify relevance was made in a study completed in 1988 by David Acker, Oregon State University, concerning the perceived relevance of graduate education in the United States by students from Tanzania in East Africa. Tanzania was chosen because it was felt by the researcher that it was representative of East Africa. It was representative of the region in several areas: climate, socio-political factors, and number of students who had received a graduate education in the United States (Acker, 1988). Acker identified 116 individuals who had received master's or doctoral degrees in the U.S. under U.S.A.I.D. sponsorship. In this study, respondents rated on a Likert scale the relevance of their U.S. education to their career goals and their country's agricultural development goals. Respondents also answered demographic questions.

The same study was repeated in Malawi in the summer of 1990. This study was part of the evaluation project undertaken by the Department of Adult and Youth Education at Washington State University. U.S.A.I.D., World Bank and the Malawian Ministry of Agriculture (MOA) contacted U.S.D.A. in 1989 to research the relevancy of long-term off-shore training. U.S.D.A. contracted with Washington State University to design and conduct the study. Eighty six individuals who had completed M.Sc. or Ph.D. degrees in the U.S. were identified and sent the Acker survey adapted to fit Malawi.

Preliminary comparisons of the data samples have yielded some interesting similarities and differences between the responses from Malawi and Tanzania (Long et al, 1990). These differences will be explored and related to literature in the field to fortify the link between prior research and this study.

Contextual factors in Malawi and Tanzania

To fully understand the perceptions of the graduate students from Tanzania and Malawi (Figure 1) as well as to evaluate and compare their responses as to the relevance of their graduate education, it is important to look at the historical and socio-political context of their respective countries. Although these two countries are in the same geographic region and they were both under British rule prior to their independence, they differ dramatically in the paths that they have taken since gaining independence. The differences in the political environments of the countries could have an effect on the students' perceptions of the relevance of their graduate education.

Historical Background

During early colonization of Africa, both countries initially came under Portuguese rule. The period of Portuguese dominance in the area which is now Tanzania lasted approximately 200 years (1600-1800) before

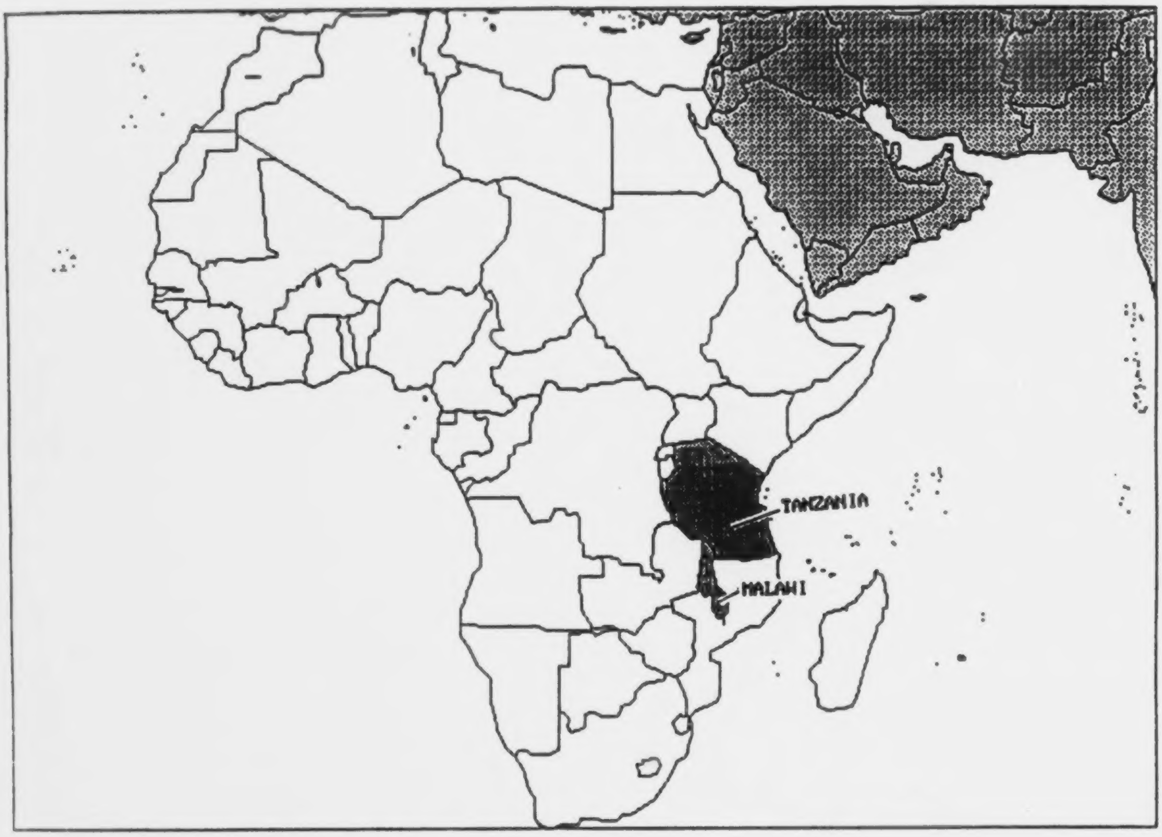


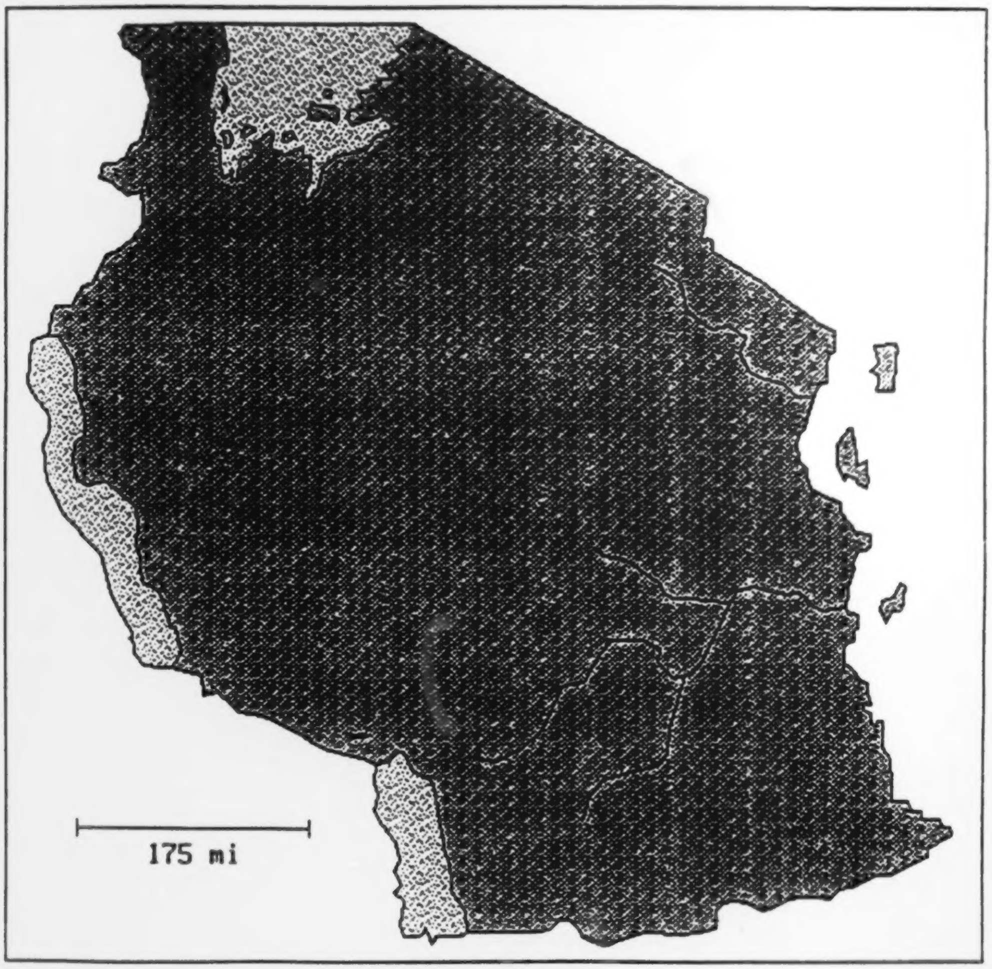
Figure 1. Map of Africa Highlighting Tanzania and Malawi (©PC Globe 3.0, 1991 Reprint Permission Granted.)

they were overthrown by the native tribes who had elicited the help of the Omani Arabs. The Omanis sought and retained large portions of the east coast of this region. The Omanis were not forced out until the arrival of the British, who sought to end the slave trade out of Africa. The tribal leaders in East Africa shared the aim to end slave trade and thus formed a relationship with the British. After the Napoleonic wars, British influence was greatly strengthened in India. This strength aided their goals to increase their influence in East Africa. By the late 1800's, Britain and Germany were the dominant powers in East Africa with British control over Uganda, Kenya and Zanzibar and German control over German East Africa. After World War I, Britain gained control of German East Africa and renamed it Tanganyika and it also became one of the British colonies (Maxon, 1986).

In Malawi, the Portuguese had a more stable stronghold on power. Portuguese colonization of Malawi began over five hundred years ago during their period of intense world exploration. The Portuguese main aim was not political conquest, but to trade in gold and slaves, therefore not much emphasis was placed on changing the colonies in the areas of religion, education, and agriculture. In fact, the Portuguese turned a blind eye when Protestant religions established missions in Malawi. During the last quarter of the nineteenth century, the rivalry between the British and the Portuguese began to heat up, due in part to the influence of those British Protestant missions. These missions preached that slavery was inhumane and unChristian. Their influence and comradery with the local tribal leaders, coupled with the British policy to abolish slave trade, put the Portuguese and the British at odds. By May of 1891, the British had successfully established Malawi as a British protectorate (Pachai, 1973).

While under British rule, both Malawi and Tanganyika began the quest for independence. There was a progression from complete British control, aided by Asian immigrants; to African control of local government functions; to allowing political parties and some form of election for advisory seats; to Africans serving in elected positions with power; and finally to the establishment of a constitution for the independent governing of each country. Tanganyika achieved independence in December 1961 and in 1964 joined with the island nation of Zanzibar to form Tanzania (Maxon, 1986) (Figure 2). Malawi became an independent state under a monarchial constitution in July 1964. The monarchial constitution was replaced by a republican constitution in 1966 (Pachai, 1973). Although Britain was no longer governing these African nations, it retained its stronghold on their economies. Britain was the primary purchaser of African goods and importer of products into these nations and thus remained very influential in their affairs.

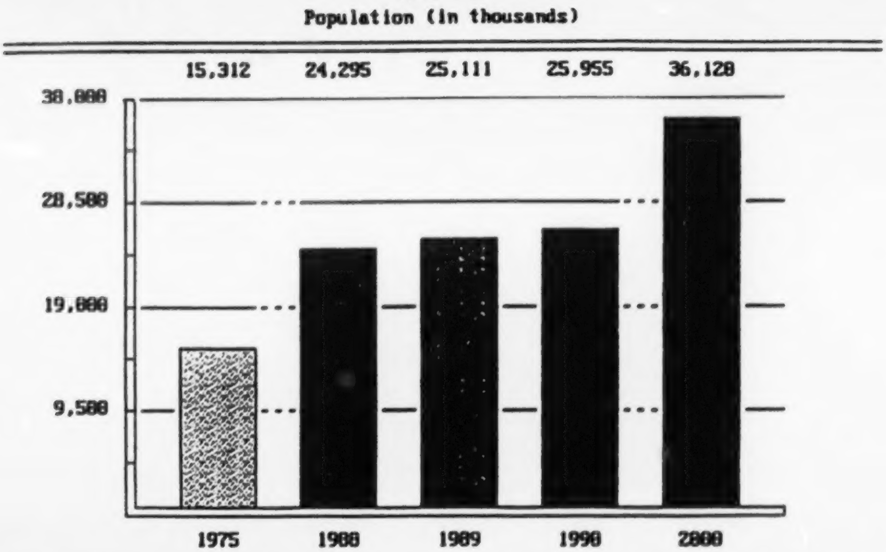
From the early colonial period of Portugal through the attainment of independence from British rule, Tanzania and Malawi were somewhat similar. It is after the achievement of independence that the two countries differ dramatically in the political paths that each pursued. Both countries were influenced strongly by a dynamic leader, however those leaders guided their respective countries to opposite ends of the political spectrum.



TANZANIA

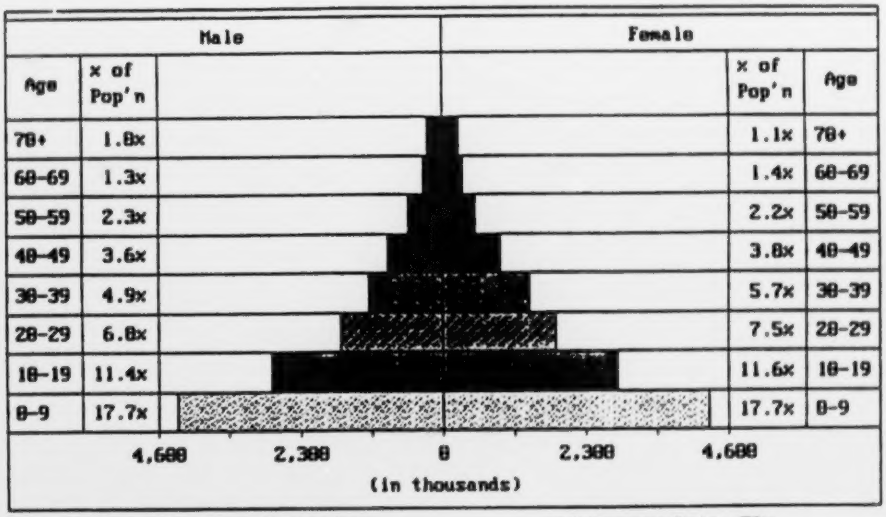
POPULATION
24.3 MILLION
AREA (SQ MI)
364,900

Figure 2. Map of Tanzania
(©PC Globe 3.0, 1991 Reprint Permission Granted.)



- Annual Pop'n Growth: 3.36%
- Pop'n Doubling Time: 21 years
- Pop'n Density: 67 inhabitants/sq mi

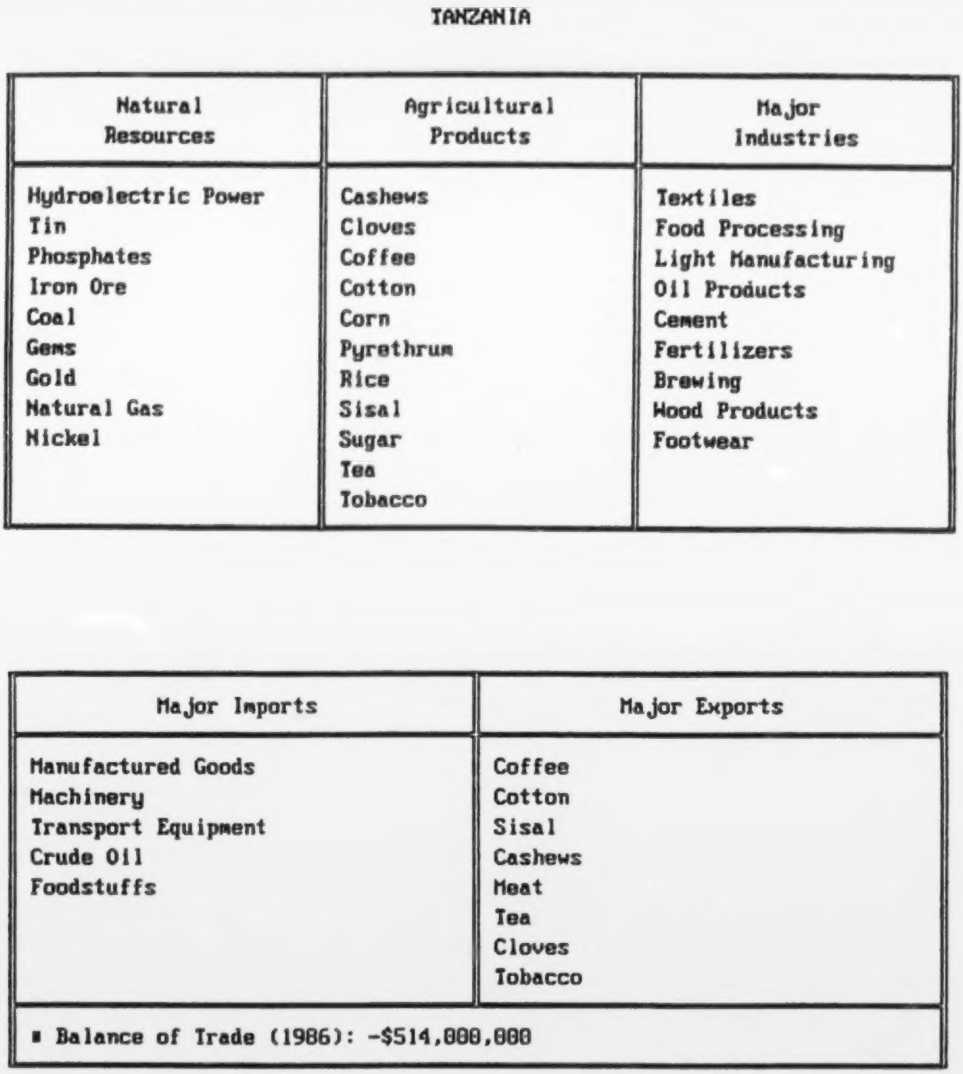
Age Distribution



Age	% of Pop'n (Male)	% of Pop'n (Female)	Age
70+	1.0%	1.1%	70+
60-69	1.3%	1.4%	60-69
50-59	2.3%	2.2%	50-59
40-49	3.6%	3.0%	40-49
30-39	4.9%	5.7%	30-39
20-29	6.0%	7.5%	20-29
10-19	11.4%	11.6%	10-19
0-9	17.7%	17.7%	0-9

- Total Population: 24,295,000
- Total Male Pop'n: 11,905,000
- Total Female Pop'n: 12,390,000
- Literacy Rate: 79%
- Urbanization: 10.2%

Figure 3. Population/Age/Educational Characteristics of Tanzania (©PC Globe 3.0, 1991 Reprint Permission Granted.)



TANZANIA

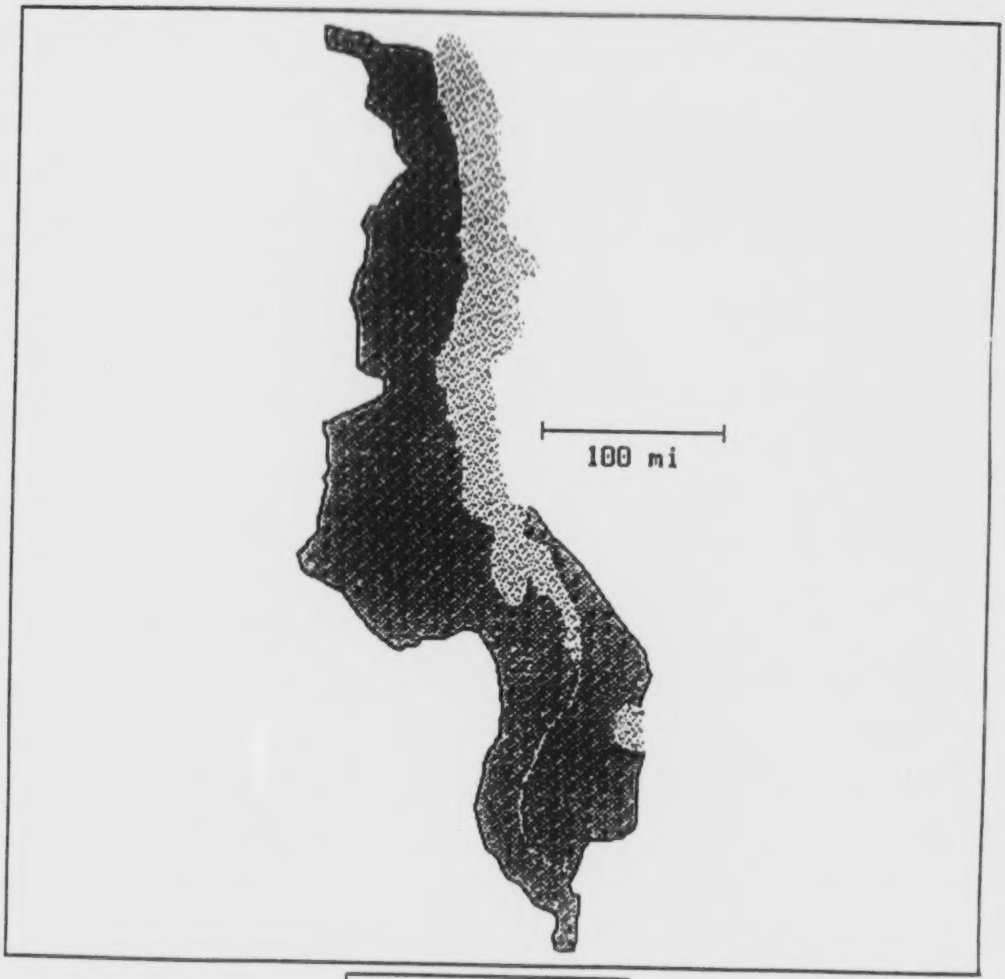
Natural Resources	Agricultural Products	Major Industries
Hydroelectric Power Tin Phosphates Iron Ore Coal Gems Gold Natural Gas Nickel	Cashews Cloves Coffee Cotton Corn Pyrethrum Rice Sisal Sugar Tea Tobacco	Textiles Food Processing Light Manufacturing Oil Products Cement Fertilizers Brewing Wood Products Footwear

Major Imports	Major Exports
Manufactured Goods Machinery Transport Equipment Crude Oil Foodstuffs	Coffee Cotton Sisal Cashews Meat Tea Cloves Tobacco
▪ Balance of Trade (1986): -$514,000,000	

Figure 4. Economic/Agricultural Characteristics of Tanzania (©PC Globe 3.0, 1991 Reprint Permission Granted.)

In Tanzania, Julius Nyerere was a strong leader in the TANU political party which was instrumental in the independence process and later he became the prime minister. Nyerere saw that the only way for Tanzania to decrease its dependence on foreign aid was to form a socialist society and to focus on self-reliance. This socialist perspective fostered a great emphasis on education for all citizens. This education did not focus on the traditional preparation for college, but rather on agricultural education and universal primary education (Figure 3). There was also an emphasis on adult education and literacy. In spite of the emphasis on self-reliance, Tanzania was one of the largest recipients of foreign aid in the 1970's. The lessening of the availablility of foreign aid in the 1980's has had a serious impact on Tanzania's economy (Figure 4).

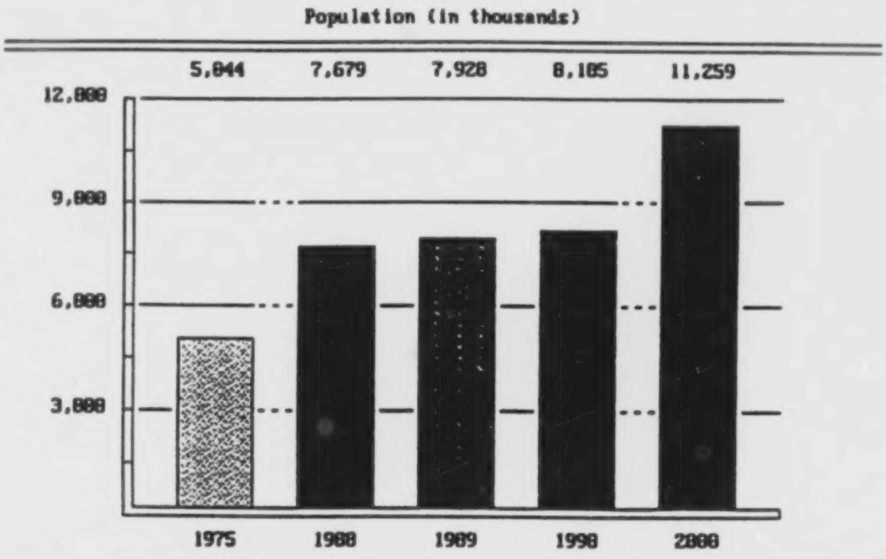
For Malawi (Figure 5), the influential person was Ngwazi Dr Kamuzu Banda. He was a leader in the Malawi Congress Party. His party was instrumental in achieving independence from Britain and replacing the initial monarchial constitution set up by the British with a republican constitution. The Malawi Congress Party nominated Dr. Banda to be the first President of Malawi and this was approved in 1966. Later in 1971, the constitution was amended to make Ngwazi Dr. Kamuzu Banda President for his life time. In contrast with Tanzania's socialistic system, Malawi established an autocratic system with all decisions coming from the top down (Pachai, 1973).



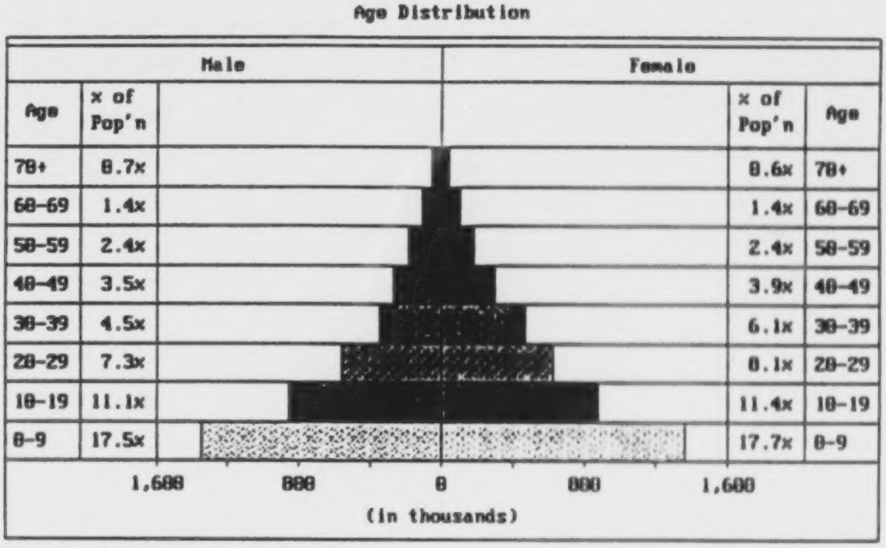
MALAWI

POPULATION
7.7 MILLION
AREA (SQ MI)
45,747

Figure 5. Map of Malawi
(©PC Globe 3.0, 1991 Reprint Permission Granted.)



- Annual Pop'n Growth: 3.24%
- Pop'n Doubling Time: 22 years
- Pop'n Density: 168 inhabitants/sq mi



- Total Population: 7,679,000
- Total Male Pop'n: 3,717,000
- Total Female Pop'n: 3,962,000
- Literacy Rate: 25%
- Urbanization: 12.3%

Figure 6. Population/Age and Educational Characteristics of Malawi (©PC Globe 3.0, 1991 Reprint Permission Granted.)

MALAWI

Natural Resources	Agricultural Products	Major Industries
Limestone Strontianite Monazite Uranium Coal Bauxite	Tobacco Tea Sugar Corn Groundnuts Rice Cotton Beans	Food Processing Textiles Footwear Tobacco Processing Tea Processing Consumer Goods

Major Imports	Major Exports
Farming Equipment Fertilizers Consumer Goods Transport Equipment Building Materials	Tobacco Tea Sugar Peanuts Cotton
■ Balance of Trade (1986): -$57,000,000	

Figure 7. Economic/Agricultural Characteristics of Malawi (©PC Globe 3.0, 1991 Reprint Permission Granted.)

The effects of colonization are very evident with respect to the agricultural development of these two nations. British policy was to keep the colonies dependent on Britain for their livelihood (Figures 4 and 7). Investments were made in cash crop production rather than in production of food crops (Maxon, 1986). Little attention was paid to self-sustaining agriculture. One of the major problems that faces these nations today is that of feeding their citizens (Figures 6 and 7).

The transplant of traditional educational practices which emphasized preparation for work in an industrialized society were found highly inadequate for the needs of the rural economies of developing countries. Developing countries like Malawi and Tanzania continue to struggle with shortages in trained manpower and thus the need for education and training that is relevant to the needs of developing countries.

Statement of the Problem

This study was designed to determine if key elements, both programmatic and demographic, influence the perceptions of relevance of U.S. graduate education to individual and national development needs. It is not clear the influence of academic advising on the perceptions of relevance of graduate education programs for students from developing countries.

Purpose of the Study

The purpose of this study is to evaluate the effect of academic advising on the perceived relevance of U.S. graduate training of Tanzanian and Malawian Agriculturalists to career goals and national agricultural development goals and to determine if differences in relevance exist based on age, gender, and occupation. This study was an extension of David Acker's research in Tanzania and the research which was duplicated by James Long et al in Malawi. It compared the perceptions of relevance from the Malawian and Tanzanian groups.

Research Questions

1. What effect if any does academic advising have on the relevance of graduate education to career and national agricultural development goals?

2. Is there a difference among perceived relevance for those individuals who reported adequate advising as opposed to those who report inadequate advising or no advising at all?

3. What effect, if any, do the demographic variables of age, gender, and occupation have on the students' view of the adequacy of academic advising and their perception of the relevance of education?

This study will examine differences between the samples from Tanzania and Malawi and differences within each of the samples. Hypotheses have been developed to guide in the evaluation of the variables on academic advising. These hypotheses include:

Hypothesis 1 (H_1): There is no difference in the perceived relevance of training to career goals based on the two independent variables and three extraneous variables:

Independent Variables
a. presence and/or adequacy of academic advising prior to departure from home country
b. presence and/or adequacy of academic advising in the U.S.

Extraneous Variables
c. gender
d. age
e. type of employer after returning to home country

Hypothesis 2 (H_2): There is no difference in the perceived relevance of training to national agricultural development goals based on two independent variables and three extraneous variables:

Independent Variables
a. presence and/or adequacy of academic advising prior to departure from home country
b. presence and/or adequacy of academic advising in the U.S.

Extraneous Variables
c. gender
d. age
e. type of employer after returning to home country

Methodology

In 1987 trainees from Tanzania who had received graduate education in the United States were surveyed (n=86) to determine the relevance of that graduate education. The survey was administered to a second sample of trainees from Malawi (n=58) in the summer of 1990. Preliminary data on the comparison of the two samples yielded some interesting trends. This extends the preliminary evaluation of the data to focus specifically on the effect of academic advising on perceived relevance of U.S. graduate education. Hypotheses, stated in the null format, have been generated. The two samples were separated into three groups: those who perceived they received adequate academic advising, those who perceived they received inadequate academic advising, and those who received no academic advising. This separation was made with respect to the questions 19a. & 19b on the survey (Appendix A and B) which deal with in-country advising (prior to leaving for U.S.) and advising during their graduate study. Means for career relevance values and national agricultural development relevance values were calculated for the subgroups. One-way analysis of variance (ANOVA) was used to determine differences among the means for each subgroup with respect to perceived relevance. The subgroups were further divided taking into account one demographic variable at a time, to determine if demographic variables affect perceived relevance. The means for career and national relevance were compared and tested once again using T-tests, one-way analysis of variance, two-way analysis of variance, and Duncan's tests. A statistical significance of .05 was used to determine acceptance or rejection of hypotheses.

Limitations

The main limitation of this study was the small number of respondents in some of the sub-groupings. For example, in the two samples the number of females was very small. In Tanzania, there were nine females and, in Malawi, twelve. This made the interpretation and application of the analysis based on gender somewhat difficult, however as the number of women entering higher education in developing countries increases, it is important to examine their perceptions of the academic advising process and the relevance of graduate education.

Another limitation is that both samples were taken from the same region of the world, East Africa. There are historical and cultural factors that are unique to different parts of the world which could influence the effect of academic advising on relevance. This comparison study is designed to help identify the regional similarities and specific country differences with respect to perceptions of relevance of education to the needs of countries in East Africa and individual careers.

The fact that the study was based on perceptions of the respondents also limits the study. These perceptions may be influenced by many factors that are not directly addressed in the survey. The respondents were also asked to reflect back on their graduate educational experience and their preparation prior to beginning graduate training. This delay in the time sequence could produce distorted responses, both positively and negatively. However, this delay was necessary in order to allow the respondents time to return to their careers and therefore have a more accurate view of the relevance of their training to their career, as well as the development needs of their country.

Delimitations of the Study

In the Acker's original study in 1988, the independent variables were classified into three areas: career variables, personal variables, and educational variables (Figure 8). The focus of this study was to control for some of the independent and extraneous variables. Career variables and personal variables are not under the direct control of the U.S. university and thus have been classified as extraneous variables. However, one of the educational variables, academic advising/counseling, is an area over which a U.S. university has more control, so it was selected as the independent variable. It is for this reason that the effect of academic advising on perceived relevance of graduate training to career and national agricultural development goals was chosen as the focus of this study. Therefore, relevance was the dependent variable. In addition, this study controlled for two personal variables, age and gender, and one career variable, type of employer.

Jimmerson (1991) created a model for analyzing educational relevance in which he divided the decision process into four phases (Figure 9). He listed the decision makers and the variables in each phase. This study focused on the effect of academic counseling/advising on educational relevance. Academic advising is represented as one of the variables in this model. Academic counseling prior to leaving the home country environment and while studying at U.S. institutions were listed as variables in Phases II and III. The study also encompassed participant traits, a variable in Phase I, and career traits, a variable in Phase IV. This model illustrated the interaction between each one of these variables in achieving educational relevance. Because of the interactive nature of these variables, it was necessary to separate each one out to determine their effect. This study was designed to separate the independent variable of the presence or adequacy of academic advising and the extraneous personal variables of gender, age and type of employer to examine their effect on the relevance of education to career and national development goals.

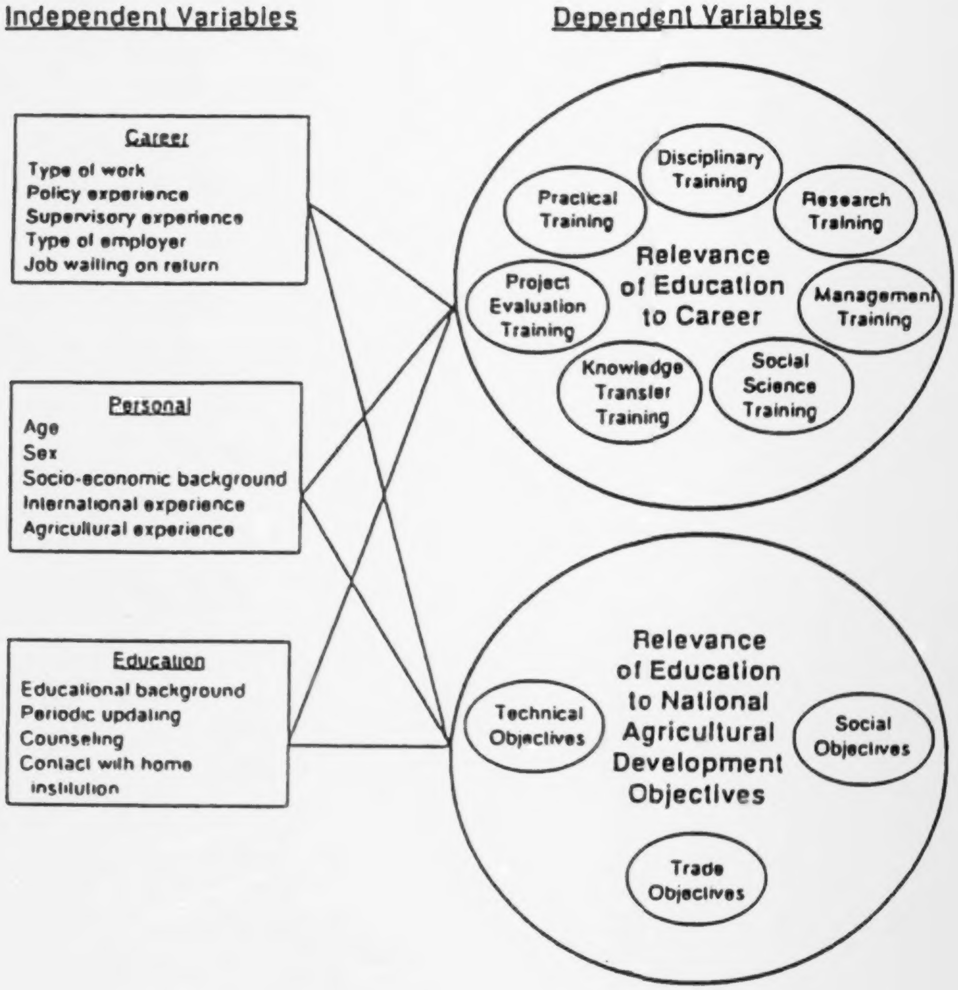


Figure 8. Key Elements Related to Relevance of Graduate Education of Agriculture (Acker, 1988).

Decision Process Model of Educational Relevance

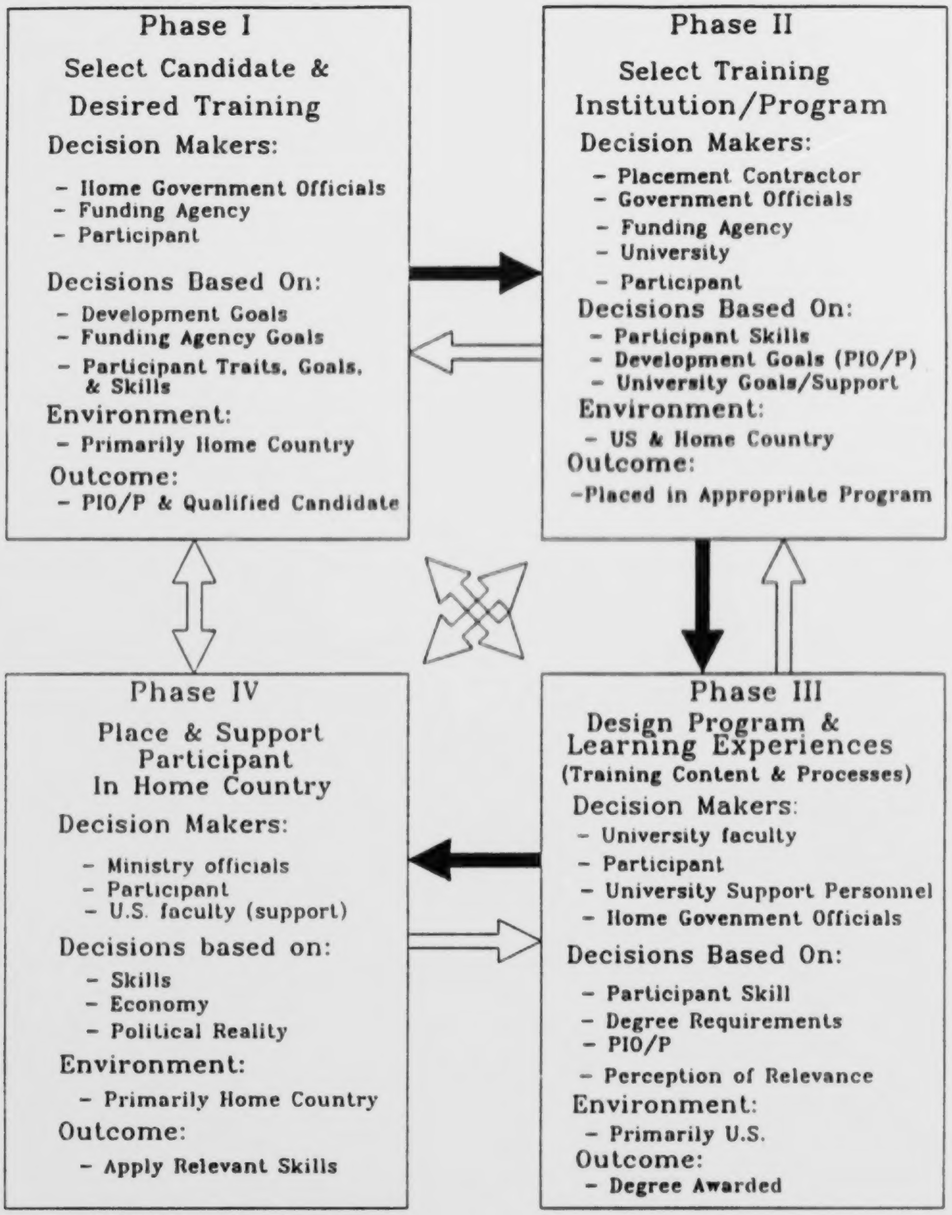


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Figure 9. Decision Process Model of Educational Relevance (©Jimmerson, 1991 Reprint Permission Granted.)

Definitions

Academic Advising/Counseling - A professional service which provides accurate and effective delivery of academic information in an academic environment. That delivery requires the following of the provider:

Knowledge of the institutional priorities, programs, and policies; human growth and development; individual differences

Attitudes of respect and concern for the dignity of each person and appreciation of individual differences

Belief in potential intellectual development of the individual

Commitment to giving generously of time to students and to continued study of the developmental processes of students of all ages and

Skills in interpersonal communication. (Tauer, 1988)

"Adequate" Advising - Advising/counseling that is sufficient for the specific requirement of designing graduate programs to meet the needs of students (Webster's Dictionary, 1988).

Agricultural Development - Transformation of agricultural economies into modern ones that meet the food needs of the population in addition to export purposes.

Developing Countries - Countries that comprise what the United Nations referred to as 'the developing market economies' (Spaos, 1983, p.2).

Development Sponsors - Agencies, both public and private, who support development projects for the benefit of developing countries. This support includes but is not limited to funding, educational training, and consultation.

Graduate Advisor - Faculty member who is responsible for overseeing the post-baccalaureate education of a student.

Graduate Student- A student engaging in studies beyond the first or bachelor's degree (Webster's Dictionary, 1988).

Parastatal - Government sponsored private industry.

Relevance - The way in which knowledge can be adapted to the needs and conditions of the developing country, taking into account the goals of the developing country, the goals of the individual and the intentions of the sponsoring agency (Jenkins, ed., 1980).

U.S.A.I.D. - United States Agency for International Development is a bilateral assistance agency of the United States government whose primary objective is to assist less developed countries in their development efforts (Stice, 1984).

U.S. Graduate Education - Education at the post-baccalaureate level conducted at public and private institution of higher education in the United States.

Significance of the Study

This study is designed to break down the intangible factor of relevance into specific, programmatic elements that can be more readily measured and manipulated. If a relationship between academic advising and relevance can be established, training officials in the home country and faculty members in U.S. institutions will have a targeted area on which to focus some attention. This study will also shed light on the East African graduate student and their perceptions of the relevance of their training. It will examine demographic variables which might influence the students' perceptions of their training or it might show a diminished impact of those variables. The findings of this study could suggest changes in policy that could affect the selection of international students by sponsoring agencies, pre-departure academic counseling programs, and the student-faculty advisor relationship at the U.S. institutions by providing empirical data on how advising and demographic variables influence relevance.

Chapter 2

Review of Literature

Introduction

The purpose of this chapter is to present a review of research related to the area of relevance of education to agricultural development and to personal professional advancement. To fully understand the problem of increasing relevance of education to the needs of developing countries, it is necessary to examine research previously conducted. A review of related research provides the context in which the role of academic advising on increasing relevance is examined.

This review encompasses five broad topics of increasing specificity. Each topic provides the foundation for the next. These topics include: 1.) Background Information on the Purpose of Development with Specific Reference to Eastern Africa; 2.) The Role of Education in Agricultural Development; 3.) Relevant Education and its Relationship to Agricultural Development; 4.) The Role of Academic Advising in Obtaining Education Relevant to Development Needs; and 5.) The Relevance of Education for Students from Developing Countries to their Home Countries. Finally, some criticisms of the educational agenda are included and some possible directions of inquiry in the future are outlined.

Background Information on the Purpose of Development with Specific Reference to East Africa

During the post-colonization period many fledgling nations in Africa found themselves in the midst of an identity crisis. The British had ensured that the colonies maintained close economic and educational ties with "Mother England" (Maxon, 1986), therefore the new governments in these countries set out on a mission of self-determination. Part of that mission was the definition and clarification of national goals and agendas. Those goals included a shift from an agricultural system in which attention was focused on production of cash crops which consequently increased the dependence on developed countries for markets to a national focus on producing enough food crops to feed the populace (Mosha, 1986; Maxon, 1986; Pachai, 1973).

Added to the problem of moving toward economic independence, was the desire for modernization. Under colonization, African peoples observed a standard of living enjoyed by representatives of the colonial government. New governmental officials desired to increase the standard of living for their own citizenry. This increase included addressing a variety of social problems: disease, malnutrition, illiteracy, and population control (Amuzu-Kpelgo, 1985). Hence there was a need for these issues to be included in the development goals of the countries.

According to Amuzu-Kpelgo (1985), there was a need to broaden the definition of "development" beyond the narrow focus of economic production. In response to that need, the General Assembly of the United

Nations resolved in 1970 that "as the ultimate purpose of development is to provide increasing opportunities to all people for a better life, it is essential to expand and improve facilities for education, health, nutrition, housing and social welfare, and to safeguard the environment" (United Nations Resolutions. Supplement No. 28, 1971 p. 41, in Amuzu-Kpelgo, 1985). This resolution was endorsed by the World Bank and it became the basis for their policy (Amuzu-Kpelgo, 1985). Resources were committed to assist in projects aimed at producing improvements in development goals.

There was a shift in focus from importing food from developed countries to importing training and knowledge. This importation of knowledge and training took the form of expatriates and others coming into the developing country to fill the gap in human resources produced by independence (Maliyamkono, 1979; Mackenzie, 1988). The lack of trained personnel to meet human resource needs is an issue that still plagues developing countries (Haglund, 1988). Hence, one of the focuses of development sponsors is the educating/training of individuals to meet those human resource needs (Psacharopoulos, 1988). The gaps in human resources include the fields of management of government agencies, university faculty and officials, extension officers, and others.

The Role of Education in Agricultural Development

According to development education proponents, the key to remedying the social and economic problems of developing nations was education. Krieger (1988) stated that "education would be the most significant force moving Africa towards development." The World Bank emphasized the significance of education in three different ways: education as a basic need, education as a means of meeting other basic needs, and as an activity that sustains and accelerates overall development (World Bank, 1980, in Amuzu-Kpelgo, 1985).

Education at the Primary Level

There was a dramatic need to transform colonial education to meet development needs (Krieger, 1988; Amuzu-Kpelgo, 1985; Maxon, 1986; Mosha, 1986). Educational systems would be expanded to include masses of new citizens (Krieger, 1988). Baker (1989) stated that many people in the rural areas of Sri Lanka perceived education at the primary level as being of value in and of itself. This basic level of education is important to development goals because it enables individuals to incorporate knowledge through written material and it affords them a degree of control over being cheated. Psacharopoulos (1988) reported a link between education and economic growth, distributional equity and social mobility. In addition, he stated that investment in the lower levels of education within a country yields the highest economic payoff (Psacharopoulos, 1988). Tanzania, under the direction of Julius Nyerere, instituted a goal for total literacy within its population (Maxon, 1986). Nyerere said,

> The pursuit, promotion and dissemination of knowledge under the development education model should be directed at raising the level of intellectual development of the individual, since he is both the agent and the object of development. (Mosha, 1986).

Many other developing countries in Africa have the same agenda. In fact, Zimbabwe devoted 19.6 percent of its 1982-83 budget to education (Mackenzie, 1988) and other nations invest as much as 40 percent of their budgets into education (Krieger, 1988).

There is still a debate about which type of primary education is most appropriate to the needs of developing countries. Some argue that promoting an educational system in which students are guaranteed a more classical education that will prepare them for secondary schooling and university-level work is misleading when the country does not have the resources to fund that level of education and the economic base to employ these individuals after they have completed their education (Hughes, 1987; Krieger, 1988; Foster, 1989; Lulat, 1988; King, 1988). There has been a cry for increased vocational training, in conjunction with reading and cyphering, to better prepare people for vocations (King, 1988; Selvaratnam; 1988; Ishumi, 1988; Foster, 1989).

University-Level Education

A move to improve the university system within the countries rather than sending all candidates for higher education out of the country to institutions in the U.S. and Europe also blossomed during days of early independence and the struggle for development. Universities in Africa were to be developed as "agents of national development."(Mosha, 1986). However, this has been difficult to achieve because of the shortage of trained faculty in developing countries. Spaulding and Flack (1976) reported the major reasons why students from developing countries come to the U.S. One of those reasons was: to get an advanced education or training that is not available at home. Governments of developing countries see foreign study programs as a way of reducing pressure on indigenous academic resources (Altbach et al, 1985) as well as a way to achieve the critical mass needed in faculty positions. Developed countries need to reinforce the limited capacity of developing countries to train professionals and significant attention should be given to correcting this imbalance (Schertz et al (1976).

Krieger (1988) has been critical of furthering the European-style institutions of higher learning and language in African settings. He advocated a shift to more culturally specific curriculum, instruction in the native language, and research that is specific to country needs rather than purely theoretical. Amuzu-Kpelgo (1985) quoted Kwane Nkrumah of Ghana as saying:

> The role of a university in a country like ours is to become the academic focus of national life, reflecting the social, economic, cultural, and political aspirations of the people. It must kindle national interests in youth and uplift our citizens and free them from ignorance, superstition and , may I add, indolence. A university does not exist in a vacuum or in outer space. It exists in the context of a society and it is there that it has its proper place. A university is supported by society, and without the sustenance which it receives from society, it will cease to exist.

There is a strong move for the integration of higher level education into the cultural mainstream in African nations. Education patterned after U.S. or Western institutions that promoted economic development above everything else was not relevant to the values and lifestyles of African societies (Stone in Amuzu-Kpelgo, 1985).

U.S. Universities and Development

Jenkins (1983) stated three motives that U.S. institutions have for participating in the education of students from other nations: American authorities are interested in "internationalizing" American higher education, providing assistance to students from the Third World, and expanding American influence abroad. Altbach, and associates (1985) suggested that one of the motives for U.S. participation in educating international students was to build links with Third World nations and universities. Since the United Stated had no colonial heritage to build upon, there has been a concerted effort made, through the development of scholarship programs, to foster these linkages. A less altruistic view of U.S. motives stated that education was an export commodity. Technology was linked to this education and thus was a commodity for export. Thus, developing countries continue this cycle of dependence on Western nations (Altbach et al, 1985).

Higbee (National Liaison Committee on Foreign Student Admissions, 1971) emphasized two main purposes of higher education: the diffusion of knowledge and the generation of knowledge. He stated that American institutions of higher learning have "overemphasized the diffusion of knowledge and underemphasized the generation of knowledge." In the case of international students, U.S. universities have "taken international students, trained them, and sent them home to diffuse knowledge, but they may not have sent them home to generate new knowledge." (National Liaison Committee on International Student Admissions, 1971).

Schertz and associates (1976) recommended the formation of formal and non-formal networks between professionals in developed countries and developing countries. However, they point out that, "the nature of the association must change from the past student-professor relationship to one of professionals interacting as equals at a pace and in ways the developing countries will allow." Not only should U.S. institutions and faculty provide relevant training to international students, but they should maintain scholarly interaction with these individuals for the benefit of both parties (Schertz, 1976; Haglund, 1988). Maintenance of these scholarly relationships also helps to support universities and programs within the developing country who are striving to establish education that meets the needs of their students.

In addition, training centers at U.S. universities as well as in developing countries should provide short-term training to address the training needs of non-degree seeking individuals and to upgrade post-graduate skills. These training centers would also provide U.S. faculty members an opportunity to examine issues relevant to development in the context of a specific region or country. International development centers designed around a specific focus are a vital link between universities and faculty in the U.S. and those individuals in the developing countries (Schertz, 1976; Haglund, 1988).

One of the underlying roles that U.S. universities play in educating international students is that of being a force for change in the world (Altbach, et al 1985). Universities are a part of the culture and they play a large role in passing on that culture. The experience of studying in the U.S. includes exposure to, and sometime indoctrination in, American philosophy with respect to democratic ideals, foreign policy, human rights and many other areas. While this is not one of the stated aims of educating international students in the U.S., nonetheless, it must be acknowledged as a part of education.

Adult Education and Development

Adult education is a vital element of the development process. It provides the link between the government and educational institutions and the grass roots population. Nyerere established an agenda of functional literacy and adult education as a basic part of his "education for self-reliance" policy in Tanzania (Amuzu-Kpelgo, 1985). In the case of agricultural development, the most common form of adult education is that conducted by the extension service. Extension agents are key to rural development because of their working relationship with the rural people (Easter, 1985). They are a vital link between the research conducted at the universities and the application of that research into local agricultural situations. In addition, extension agents work with families on areas of nutrition, food preparation and other domestic concerns.

Development Sponsors and Education for Development

Development sponsors , such as U.S.A.I.D. and World Bank, play a large role in advising government officials in developing countries about educational needs and suggesting ways to remedy situations. They are a major source of funding for different types of educational projects, scholarships for short and long term international study, and evaluation of educational projects. There are many different types of development sponsors: governmental agencies, private foundations, religious organizations, and international agencies. The interests of these players often overlap or conflict with each other or with the institutional players, such as faculty, administration, and staff, or with the student themselves (Spaulding and Flack, 1976). These conflicting agendas present a rather fragmented approach to addressing the needs of developing countries (Rodwell, 1988; Strombom, 1989) . Haglund (1988) stated that there should be a more coordinated effort between the needs of the foreign sponsors and the academic offerings.

Psacharopoulos (1988) suggested three main roles for international agencies in assisting developing countries in their educational goals. Those roles include: conducting country-specific educational assessments, developing local analytical capacity, and sharing international experiences.

International agencies should work to determine the specific needs of each developing country. They should provide technical assistance to contribute to the generation of policy-relevant information. In addition to conducting assessments, international agencies should be training individuals to conduct analyses and thus strengthening local institutions. Third, international agencies should establish a network designed to diffuse information about which projects work and which fail. This would expedite the information sharing process (Psacharopoulos, 1988), which would help one agency know what the other was doing.

Relevant Education and its Relationship to Agricultural Development

The concept of relevance has received much discussion in the literature regarding international students' education in the U.S. There have been many attempts to define relevance. Jenkins (NAFSA Report, 1980) defines relevance as "the way in which knowledge can be adapted to the needs and conditions of the developing country, taking into account the goals of the developing country, (and) the goals of the individual. . ." (Jenkins, NAFSA Report, 1980). Baron (NAFSA Report, 1980) stated that "relevance must be seen not as an absolute but as a variable that is subject to qualification by different conditions and circumstances. One must ask the questions: "Relevant for whom?" or "for what purpose?" For the purposes of this review, the examination of relevance will be focused into four areas as outlined by Dwyer (1988):

- language and cultural adaptation to the university,
- education and training of the students,
- relevance to agency, project, organization, or government sponsoring the student, and
- relevance with respect to individual students and their programs (Dwyer, 1988).

This delineation of relevance parallels that made by Acker (1988) in his discussion of relevance. Acker categorized relevance with respect to three areas:

- utility individuals (Amuzu-Kpelgo, 1985; Mattocks, 1986; Shattuck, 1984; Acker, 1988);
- technological suitability (Jenkins, 1983; Spaulding and Flack, 1976; Baron et al, NAFSA Report, 1980) and
- national development goals and societal values (Affleck, 1988; Acker, 1988).

There are key players within each of these areas that have an effect on the degree of relevance. The needs and roles of each of those players will be examined within the context of achieving relevance.

Individual Students

This topic is difficult to address because it deals with the students' perceptions. According to Bezabeh (in NAFSA Report, 1980), the view that international students have of their study in the U.S. is "clouded by misconceptions that they may bring from their homeland." (NAFSA Report, 1980), There may be a wide difference between expectation and reality. U.S. *education is seen as the panacea for all the problems of developing countries.* There should be a direct effort made to make sure that the student understands the goals of the education with respect to the country's goals and his/her personal goals (NAFSA Report, 1980)

Selection and teaching of courses is critical to the perceptions of relevance of information to career and national agricultural development goals. Advisers serve a vital purpose to guide international students to those courses that would most effectively meet their educational needs and future goals (NAFSA Report 1980). There is often no concerted effort to relate information presented in courses to the needs of developing countries (Dwyer, 1988). Students are aware of the differences between their home countries and the U.S., however, more effort should be made to point out why those differences occur (NAFSA Report, 1980). Examples in courses should encompass situations from developing countries as well as the developed world. International students should be introduced to supplemental literature that directly relates to the needs of developing countries and, ideally, to the needs of their region of the world (Dwyer, 1988).

The level of the degree can also make a difference in the perception of relevance. According to Baron (NAFSA Report, 1980), often master's level education is more topic-oriented, while doctoral programs are more individual-oriented. The degree sought by the student also effects the length of stay in the U.S. Increasing the length of stay provides more time for cultural and social adjustment, overcoming language problems, adjustment to the U.S. university system, as well as opportunities to participate in short courses which address specifically the needs of developing countries. These short courses give students the opportunity, not only to gain highly specific information, but also to network with students and faculty members from different institutions and countries.

Forming social connections with other students is also important to the students' perceptions of relevance (Force, 1988; Somalia in Treager, 1988). Informal bonds and networks with students and faculty members across the world is part of staying current in one's chosen field (Mosha, 1986). This socialization should be encouraged by faculty members and international student advisers (Spaulding and Flack, 1976).

One of the recurring themes that is present in the literature regarding increasing relevance is that of students conducting research in their home countries or on a topic that relates directly to the needs of their home countries (Spaulding and Flack, 1976; Dwyer, 1986; Pina, 1986; Mattocks, 1986; Shattuck, 1984). While the logistics of such study are often difficult, the benefits to the student and to the developing country are significant. Students learn what it is like to conduct research in a less than optimum environment. They are faced with the problems that they will encounter upon return to their home country after obtaining their degree; problems of lack of technology, isolation from other researchers, and lack of library resources. They can study problems that directly relate to their home country's needs under the conditions of that country.

The drawbacks to such research fall into two main categories: financial constraints and supervision/resource availability. First, it is costly to travel back and forth between the developing country and the U.S. This cost is reflected in money and lost opportunity costs. Secondly, graduate research is designed to be conducted under the faculty member's watchful eye. It is a learning process in which the student relies heavily on the background and experience of faculty members. If the student is isolated from those faculty members, the data collected might be incomplete, or incorrect. In addition to faculty member expertise, research leading to a master's or doctoral degree requires access to books, journals, and other publications. Exploring the literature, designing the study, collecting and analyzing the data, and writing the thesis is a dynamic process. It involves moving back and forth between each of these elements.

If the financial and logistical problems could be remedied, the graduate research process could be even more relevant to the students and provide valuable additions to our knowledge base about circumstances in developing countries. Most faculty members are in favor of students conducting research in their home countries if funding and support services are available (Force, 1988). One suggested remedy is to have the supervising faculty member travel with the student to the home country. This would help to ensure that the data collection process was complete. However, this would require an investment of time, as well as money.

Quirino and Ramagem (1985) suggested an alternate approach. They stated that students from developing countries should be taught the basics of designing and conducting research. It is their opinion that these principles would best serve the student who could thereby adapt them to any situation in their home country.

Relevance is reported as an important need for international students (Lee, 1981; Shattuck, 1984). Lee (1981) reported that international students expressed a need for relevant education in most fields of study, but especially agriculture. In a study conducted at Washington State University, students from Indonesia, Lesotho, and Sudan who had just completed their programs of study rated how useful their academic training would be to their home situation (Shattuck, 1984). The students surveyed expressed some concerns about the appropriateness or relevance of certain parts of their academic training. They reported that their needs for relevant training were only partially met with respect to the importance placed on them (Shattuck, 1984).

Mattocks (1986) conducted a follow-up study at Washington State University with students from Indonesia, Lesotho, and Sudan, after their return to their home countries, to determine the relevance of their training. Overall, the alumni perceived their degree programs as relevant to both their current professional situations and to their home counties. However, in the area of research relevancy, over one-third of the respondents indicated that they did not have the opportunity to conduct research relevant to the needs of their home country. Mattocks indicates that there is a need to decrease the number of individuals who are not engaged in research relevant to their home countries (Mattocks, 1986).

Home Country/Development Sponsors and Relevance

When examining the question of relevance, the role of the home country, the development missions, and employers must be included. Affleck (1987) noted that "training is relevant if it solves the host country's problems, or at the very least, if it addresses the host country's problems. In order for training to address those problems, there needs to be a definition of the problems from within the developing country. Developing countries must have control over development and must devise long-term plans. The developing country must have a part in developing those long-term plans and goals (Affleck, 1988). Participant students become instruments in that development plan if they achieve the educational objectives outlined in their program plan. However, students are not always included in the design of those educational plans. They do not know how they fit into the development scheme when they return (Affleck, 1988).

Home countries have certain expectations about the training. Affleck (1988) stated that relevancy in training requires flexibility in programs and collaboration and coordination between U.S. universities and developing countries. Program flexibility is needed so training can respond to emergencies in developing countries. Coordination and collaboration is vital if all the parties are going to achieve the development and educational objectives (Affleck, 1988). Home countries also expect students to maintain ties while training is taking place and to return home on time, especially when their services are required on a project.

Considering the expectations of the home countries, the U.S.A.I.D. missions have a certain role in the evolution and accomplishment of development goals and objectives. This role is to work with the governments of involved countries to map out a development plan. Development agencies should be actively involved in the assessment of educational and other needs of the developing countries. Cooper (in Jenkins, 1983) stated that many of the problems with relevance are caused by "imperfect matching" of goals and assumptions of the various parties involved.

With respect to educational training, U.S.A.I.D. missions can play a part in the screening process of participants by encouraging the home country to select more individuals from rural areas and more women (Affleck, 1988). This is in keeping with the stated goal of U.S.A.I.D to help the "poorest of the poor" (NAFSA Report, 1980). The screening process is critical to ensure that the participant has adequate educational training to succeed in U.S. graduate programs. Jimmerson et al. (1983) surveyed the advisers of international students as to their perceptions of the needs of those students. One of the main student needs was that of adequate academic preparation.

After screening the participants, development sponsors prepare the outline of the objectives of the training program. It is from this outline that placement into a program and design of that program is made (Affleck, 1988). This outline is important to the relevance of the subsequent graduate training. The participant should be involved in this process to ensure that the purpose of the educational program is understood (NAFSA Report, 1980).

Adjustment to the U.S. university system and culture can waste valuable time in the educational process. To ease that adjustment, development sponsors can assist the home country in providing orientation to the participants. This orientation, whether in the U.S. or at the mission, should not be an indoctrination, but should focus on the practical problems of adjustment (NAFSA Report, 1980) such as: exchanging money, shopping, cultural and religious factors, terms and regulations of the sponsorship, and educational and career planning (Acker, 1988). Haglund (1988) suggested that cultural orientation programs be held on an on-going basis to correspond to the calendar year. This cultural orientation should relate to the campus and to the community as a whole. In 1980 the *National Association of Foreign Student Affairs* recommended the

> improvement of orientation programs in the home country, including examination of national professional and personal goals in relation to the opportunities and resources in the U.S. (NAFSA Report, 1980; Mashburn & Van de Water, 1984)

This orientation might address the problem of differing perceptions of the goals of the educational program between the student, home country government, and development sponsors (NAFSA Report, 1980).

Probably the most visible contribution to the educational training process played by development sponsors in conjunction with home countries is that of funding. However, Lee (1981) suggested that this funding be channeled into assistantships to enable students to gain practical experience in their chosen fields, as well as have a greater connection to the university, faculty and students. Students with assistantships reported a significantly more satisfying experience (Lee, 1981).

Faculty Members and Relevance

Faculty members are often the main link between the international student and the university. They are in a position to directly affect the relevance of the graduate education to the student's needs and the needs of their home country. However, Force (1988) stated that relevancy is not a topic that is addressed by most faculty members. Some are of the attitude that "if I teach it, it's relevant." They are so involved in research and publishing, that they take little time wondering if the materials for a particular class are relevant to the needs of their students. Most faculty members have little background in teaching methods and accommodating different learning styles (Force, 1988). When you combine this lack of background into teaching and learning with the international student's inexperience with the U.S. university system, there is a huge possibility for the "imperfect matching" to which Cooper (in Jenkins, 1983) refers. Boorer and Preston (1987) outlined this when they said,

> . . .a highly relevant piece of knowledge is disguised by the teacher in words and concepts at excessively high levels of abstraction and sophistication, to the extent that they are indecipherable to the student.

Many teachers are unable to perceive the state of readiness of the students to receive the information they are about to present (Boorer and Preston, 1987). In addition, the undergraduate preparation of the students is usually different from U.S. undergraduates, particularly those from former English colonies, because their system is based on the traditional European model of higher education. Students might be hesitant to take part in discussion or other classroom activities because they are not familiar with that form of instruction. In addition, difficulty with the English language further complicates the teaching/learning process.

Given the problems that exist, what can be done by faculty members to increase relevance? Jimmerson et al. (1983) suggest an orientation for all faculty members who deal with international students. This orientation would acquaint faculty with some of the problems that international students face and some of the services that are available for them.

Force (1988) stated that "Education is learning how to think." Therefore faculty should teach students to think and solve problems, rather than providing specific training. If students are taught creative problem solving, then their training will always be relevant to their home situation.

Faculty members could help international students develop special projects that are specific to the needs of their countries. Cooper (in Jenkins, 1983) stated that,

> To be relevant, then, education itself requires a philosophy that contains a strong dash of experimentation and openness to the future.

Faculty would be there to provide the philosophical background and to help design and implement the experimentation by students into the problems of developing countries.

Faculty members should increase their experience in developing countries (Force, 1988; Dwyer, 1986; Mali in Treager, 1988; Somalia in Treager, 1988; NAFSA Report, 1980; Mashburn & Van de Water, 1984). Nothing impresses international students more than a faculty member with international experience in their home country. Faculty must be sensitive to the difficulties of conducting research in a developing country, the feeling of isolation, language difficulties, and adjusting to another culture (Force, 1988).

Faculty members should develop new courses that are specific to the needs of developing countries, or at least devote sections in current courses that are specific to developing country needs (Force, 1988). The application of information in courses to the situations in developing countries should be overtly pointed out. This would help students see connections between the material and their home environment.

Faculty members could seek out opportunities for practical experience through internships, assistantships and directed study (Lee, 1981; Force, 1988). Also they should encourage international students to attend short courses on specific topics. In addition, they could encourage opportunities to do research in their own countries (Spaulding and Flack, 1976; Dwyer, 1986; Pina, 1986; Mattocks, 1986; Shattuck, 1984).

Force (1988) also suggest that faculty members could try to pair international students with returned Peace Corps workers. These workers have an awareness of the problems in developing countries and may even know the language. Lee (1981) also recommended more interaction between international students and U.S. students. There were several affective behaviors that were enhanced through this association and faculty members can help to shape this interaction and encourage it.

U.S. Universities and Increased Relevance

According to the 1980 report from the *National Association of Foreign Student Affairs*, the goals of the U.S. universities are to:

- disseminate latest knowledge:
- improve marketability of its products: and
- engage in research and teaching that is at the forefront of U.S. education and will draw in operating funds. (NAFSA Report, 1980)

If the universities have a desire to "internationalize" their institutions, there are some areas in which they could improve. Those areas include: degree programs, course offerings, and faculty rewards.

Universities must strike a balance between maintaining the integrity of the degrees that they offer and being flexible in order to make the program of study more relevant to the student. There is more latitude in the doctoral degrees, which are individual-oriented, than in the master's level degrees, which are more subject-oriented (NAFSA Report, 1980). Relevance of material also differs between disciplines. Some areas are more theoretical, others more practical. Cooper (in Jenkins, 1983) suggested an interdisciplinary approach to educating international students. These programs would

> offer students (and faculty) the opportunity to take a holistic, systems approach to development - to see the total context within which any and all development must take place. (NAFSA Report, 1980).

An interdisciplinary approach would help to address some of the needs of international students who are often promoted quickly into management positions within their agencies. Alumni have expressed a need for more management training, policy formation, budget management, and other courses to meet the demands of higher positions (Acker, 1988; Cooper, in Jenkins, 1983). Cooper (in Jenkins, 1983) stated that, "international students must be able to pull together many disparate pieces, and to integrate and oversee and initiate long-term comprehensive plans." This is in contrast to U.S. graduates who are more likely to be "plugged into" a middle-level position upon graduation. Dwyer (1988) described this approach to degree planning as being "flexible". Flexibility is, "facing not only the difficulties that the students have, but also the realities of the curriculum and class needs." (Dwyer, 1988).

The next area in which universities can have an impact on relevance is that of course offerings. Often fiscal constraints dictate the types of courses that are taught, especially at state-funded institutions (NAFSA Report, 1980). The number of students enrolled in a course determines whether the course will be taught. The *National Association of Foreign Student Affairs* suggested that there should be federal support, in the form of financial support, for course offerings in international development. Cooper (in Jenkins, 1983) suggested that there is not so much a need to add additional courses, but to allow students to explore courses outside their major departments that are directly related to international development.

In 1983, at Stanford University, two hundred courses in twenty-two departments were directly applicable to the needs of students from developing countries (Cooper, in Jenkins, 1983). In the 1980 NAFSA Report on Relevance, it was suggested that a complementary curriculum be developed on the history of development, specific to regions of the world. This curriculum should be made available to universities that teach international students and made compulsory for the students' programs (NAFSA Report, 1980). U.S. students are also being taught to expand their focus beyond the borders of their country. Courses in international development could produce reciprocal learning for both international and U.S. students or as Haglund (1988) termed it, a "brain-sharing".

In order for the changes to occur in curriculum and degree programs, these activities need to be rewarded by the university system. Dwyer (1988) stated that because universities place so much emphasis on research and publications it is very difficult for a faculty member to obtain tenure if he/she focuses on international development and education. The rewards for international involvement on campus are not present. If faculty members spend time focusing on international students and development, it is in addition to their research and publication responsibilities.

There is a debate between whether universities should provide traditional education or specialized training to students from developing countries. Lee (1981) reported a need for more specialized training to meet specific problems in developing countries. Force (1988) stated that faculty members, at least at the university level, see themselves as educators, not trainers. "Education is not knowing more, but behaving differently."(Force, 1988). Educating students is teaching them how to think, so that if the technology or situation changes, they can make adaptations and solve problems. Specialized training opportunities should be made available through internships and short courses (Force, 1988). The practical experience to which Lee (1981) referred could be obtained through assistantships. Support funding from development sponsors or home countries could be channeled through departments to the student in the form of assistantships (Lee, 1981). This would provide practical experience in the field of study, and association with faculty members and other students.

The Role of Academic Advising in Obtaining Education Relevant to Development Needs

The academic adviser plays an extremely important role in pulling together all of the interests of all of the different stakeholders into a program of study that attempts to address those needs. An adviser provides a strong link between the university system and the student. They can assist the student in navigating a successful course through the myriad of university and departmental regulations. Quirino and Ramagem (1985) stated the importance of good academic advising/counseling to the entire development agenda when they said,

> the relationship between advisors and students can help or hinder the performance of foreign graduate students and as a consequence the effective access of less developed countries to one of the chief sources of transfer of technology.

Given the importance and power of their position, the roles of academic advisers should be examined.

Much of the research examines the role of international student advisers who handle placement and student services for international students. For the purpose of this review, the focus is on faculty members who advise international graduate students in academic programs. Quirino and Ramagem (1985) classified academic advisers as "gate-keepers". They approve courses and seminars, guide research projects, select graduate committee members, and are held responsible for recommending the most appropriate resources to help students accomplish their study goals. Advisers also play a role in language acquisition, cultural adaptation, and survival strategies in strange surroundings (Quirino and Ramagem, 1985). Academic advisers must also deal with students' personal problems, especially in the case of international students who are unfamiliar with the services offered on campus to assist them (Woods, 1986).

The adviser/student relationship differs between U.S. students and international students. The NAFSA (1980) suggested that advising be "culture specific". It was noted that some cultures, as well as some individuals, require more help adjusting to the U.S. Advisers need to have as much information as possible about the student and the culture from which they come. In the selection of individuals who will advise international students, special attention should be paid to cultural sensitivity. In addition, the experience of living and working in a developing country can be invaluable to an academic adviser.

In order to increase the relevance of the education for the student and his/her home country, the adviser needs to have as much information as possible. Careful preparation of the detailed objectives of the educational program by the development sponsor or home government is critical. However, that information must be made available to the academic adviser for it to be useful (Affleck, 1988). Placement contractors and international student offices need to ensure that the training information, as well as biographical data, is available to the academic adviser.

Force (1988) noted that students coming from an educational system that was highly structured have difficulty when there is a wide choice of courses and instructors. Academic advisers can assist the students in making those choices by introducing them to other students who may have taken the courses, suggesting that they talk to the instructor, and obtaining a copy of the syllabus to determine if the course meets the needs of the student.

Advisers should encourage initiative on the part of the students in seeking out relevant courses and material (NAFSA Report, 1980).

To assist the student in selecting relevant courses and designing research relevant to their needs, the adviser must know those needs. In the study by Jimmerson and Trail (1983), the advisers' perceptions of the importance of certain needs of students from Indonesia, Kenya, Lesotho, and Sudan were assessed. In addition, the advisers were asked how well those needs were being met. Stice (1984) compared the responses from the advisers with those of the students. Overall, Stice (1984) found that student and adviser perceptions were in agreement. There were four areas which the advisors and students felt that the needs were either met or partially met to a higher degree. Those areas were:

- student and advisor planning degree program together
- program relevancy
- opportunities to apply principles and theories
- opportunities to conduct research relevant to the home country (Stice, 1984).

This study illustrated that advisers generally have a good perception of the overall needs of students from developing countries. That awareness is the first step to addressing those needs through course work, research, and practical experiences.

Oyer (1984) conducted a study of a peer tutoring program which matched students from Indonesia enrolled in the Masters of Arts in Continuing Education (M.A.C.E.) program at Washington State University with U.S. students. While the main purpose of the tutorial program was to address the academic needs of the Indonesian students, the researcher observed that the tutor could also provide a link between the student and the academic adviser. This international student/tutor relationship could help to overcome some of the cultural barriers that exist between international students and faculty advisers. However, it should be approached with caution, taking into account the cultural mores of the international student (Oyer, 1984).

The Relevance of Education for Students from Developing Countries to their Home Countries

Affleck (1988) when stating the needs of the home country governments, reported that the home countries want the students to return home and to return home on time. The relevance of the educational training that students receive in the U.S. is partially dependent on conditions that exist in the home country. Those conditions include: the social and political climate of the country, economic conditions, and the job opportunities for the returnee.

In a study conducted by Lee and Ray (1987), international students were surveyed to determine the likelihood of remaining in the United Stated after completion of their degree. One of the main instances that individuals choose to stay in the U.S. is when there is political unrest in their home country. Lee and Ray (1987) stated that,

> the most effective way for the students' home country to encourage or ensure their return home is to create a stable political environment where returning students are assured access to rewarding positions, that will allow them to make good use of U.S. training.

Differences in political systems also affect the degree to which an individual feels he/she can utilize his/her training and affect national agricultural development goals. Haglund (1988) reported frustration felt by graduates upon returning to their home countries. There is a culture clash between the graduates' training in the U.S. and the operating mechanisms in their home countries.

Economic conditions and the opportunity for employment in their field were additional factors that would affect return to home countries according to the international students surveyed by Lee and Ray (1987). Lulat (1988) suggested that a healthy economy is necessary in order for education to have a fighting chance in developing countries. Hughes (1987) found in the case of Kenya, graduates of the University of Nairobi were either unemployed or underemployed because the economic development had not kept pace with education. Many of these individuals were in government positions and utilizing 40-50 percent of their training. Economic development must go hand-in-hand with education in order for individuals to utilize the knowledge that they receive in positions for which they were trained.

Many of the international students whose education is funded by their home country or development sponsors have positions waiting for them upon their return. Their educational training is often in response to a certain need within a government agency. However, they may go into a position where they are called upon to create the conditions required to carry out their work. The opportunities for on-the-job training may be limited. These factors may affect their perceptions of the relevance of their training. This environment is compounded by a feeling of isolation from professional colleagues and professional material (Acker, 1988; Mattocks, 1986; Mashburn and Van de Water, 1984; Amuzu-Kpelgo, 1985) Re-entry programs can help to prepare returning students for some of the things they will encounter. Re-entry counseling is seen as crucial to tying all of the elements of the training process together and integrating it with the long-term development plan of the country (NAFSA Report, 1980.).

Summary

This review of literature related to education and national development focused on five major areas: 1.) Background Information on the Purpose of Development with Specific Reference to Eastern Africa; 2.) The Role of Education in Agricultural Development; 3.) Relevant Education and its Relationship to Agricultural Development; 4.) The Role of Academic Advising in Obtaining Education Relevant to Development Needs; and 5.) The Relevance of Education for Students from Developing Countries to their Home Countries. Included were earlier articles that portrayed an optimistic view of the impact that education would have on development objectives. Later literature presented a more skeptical view of the transforming power of education in developing countries. Several studies suggested a move from the ethnocentric view of education and development. Developing countries need solutions that are designed specifically for their problems, not just transplanted from the U.S. Economic diversity and economic expansion needs to accompany increased emphasis on education in order to support a higher educated populace.

This shift from the optimism of the earlier literature to a more realistic approach to education and development increases the need for increased attention to the relevance of educational training programs. The literature illustrated an interrelationship between all of the stakeholders in development. Home country governments, development sponsors and U.S. agencies, U.S. universities, faculty members and advisers, and the students all have a specific role in achieving education and training that is relevant to the national development needs of a country, as well as the personal career goals of the student. The definition of relevance depends on the perceptions of each of those players.

Some of the recurring themes of the literature regarding increasing relevance were:

- better communication of the objectives of the educational program and a closer relationship between development objectives and the educational plan;
- increased opportunities for application of theory to problems in developing countries; and
- increased opportunities for research in home countries.

Better communication is needed at each stage of the training process. This included communication on the part of development sponsors and home country governments with students regarding the objectives of the educational training. In addition, those objectives should be passed on to placement officials, international student offices and, finally, to academic advisers. Encompassed with that communication process is the need for a firm relationship between developing countries and U.S. institutions that provide training. These two parties need to work together in outlining development needs and designing programs that address those needs. Once those objectives are agreed upon, increased communication between the student and the academic adviser is vital to defining the student's/country's needs and how those might be addressed through course work and research.

Lee (1981) stated a need for more application of theories and principles to situations which could arise in developing countries. This application could be in the form of internships, short courses, and assistantships (Force, 1988). Application of material to specific needs of developing countries could be increased if the faculty member has had experience in developing countries.

The third theme that came out in the literature was the need for research to be completed in the home country or at least deal with topics directly related to developing country problems. Research in the home country is a topic that is limited by financial and time constraints. Supervision of students while they are gathering their data is a problem at this time because of the lack of networks of faculty members in the home countries to assist the student in data collection.

Finally, in order for U.S. universities to provide education that is relevant to the needs of developing countries, it must break out of the present paradigm about higher education. Dwyer (1988) stressed flexibility in programs, courses, research, and faculty. Interdisciplinary approaches to graduate education, like those suggested by Cooper (in Jenkins, 1983), in which students are free to incorporate knowledge from a wide variety of disciplines are a possible key to the relevance issue. In addition to rethinking the paradigm, there is a need to incorporate the goals and ideas of each of the stakeholders in the educational process.

Chapter 3

Methodology

Introduction

This study was designed to determine the effects of academic advising on the perceived relevance of U.S. graduate education to career and national agricultural development needs for students from developing countries. The methodology used in this study is described in Chapter 3. It is separated into four sections. The first section introduces the population and the sample of individuals. Next, the instrument is described, both in terms of its development and utilization in Tanzania and Malawi. The third section outlines the data analysis techniques used and, finally, a summary of the methodology section is included.

The Population and Sample

This study compares the responses from surveys administered in Tanzania and Malawi. Although the two countries lie in the same region geographically, they differ dramatically in their political environment. The political environment can affect the selection of individuals to study in the U.S., as well as the perceptions of those individuals toward their career mobility, their influence on national agricultural development issues, and, consequently, the relevance of their graduate study to meeting career and national agricultural development goals.

Tanzania, a former British colony, was formed when Tanganyika came together with Zanzibar to form one nation in 1964. Each country had gained their independence from British rule in 1963 and came together with Julius Nyerere at the forefront of the political parties (Maxon, 1986). Tanzania is a country of approximately 23.5 million people. The main focus of Nyerere's government was the development of a socialist system that strives toward a goal of self-sufficiency, with an emphasis on education for all (Maxon, 1986). This egalitarian, socialist philosophy could reflect in the respondents perceptions of the relevance of their graduate training. The respondents may feel that they have more of an opportunity to achieve their career goals and to influence national agricultural development.

Malawi achieved its independence in 1966 under the leadership of Ngwazi Dr. Kamuzu Banda. In 1971, the constitution of Malawi was amended making Dr. Banda president for life. This change signaled the path that Malawian government would take. Unlike Tanzania, Malawi is under a rigid autocratic system of government which could affect an individual's ability to progress professionally or to influence national agricultural development. In addition, Malawi has approximately one-fourth the population of Tanzania. Malawi's population was reported as approximately 8 million in 1990 (Long and Jimmerson, 1990). Of that 8 million, 90 percent live in rural environments. John Barbee, Associate Peace Corps Director, in a September 16, 1991 interview estimated Malawi's population at nearly 10 million with 1 million refugees. Tanzania is more urbanized than Malawi.

For the purposes of this study, the population that was studied consisted of two groups of individuals: one from Tanzania and the other from Malawi. In Acker's original study on the group from Tanzania, the population was defined by four criteria:

1. Held Tanzanian citizenship at the time of study;
2. Completed a master and/or doctoral degree from a U.S. institution of higher education in a field related to agricultural development between 1978 and 1987;
3. Were resident in Tanzania at the time of study; and,
4. Were listed on U.S.A.I.D. records as having received financial support from U.S.A.I.D. for their graduate education (Acker, 1988).

With the help of Tanzanian government officials and U.S.A.I.D. officials and records, Acker identified 114 individuals who met the criteria. Current addresses were found for all individuals, some of which were incorrect. After eliminating those individuals who had left the country, were deceased, or that he was unable to contact, Acker distributed surveys to 99 individuals (Acker, 1988).

As part of the evaluation project of the Malawi Agriculture Staff Training Programme V (Appendix C) conducted by the Department of Adult and Youth Education at Washington State University, the same criteria were used in selecting the population of Malawians surveyed in 1990 (Long and Jimmerson, 1990). Seventy-three individuals were identified as meeting those criteria and surveys were sent to those individuals under a cover letter written by Dr. Tom Trail, Training Specialist at the U.S.A.I.D. mission (Appendix B.). Dr. Trail also conducted the follow-up on the surveys.

Of the 99 surveys distributed in Tanzania, 86 were returned, a 86.9 percent response rate (n=86). Long and Jimmerson (1990) reported 60 surveys returned out of 73 distributed, a 82.1 percent response rate. Later examination of those surveys found that two had been completed by individuals who had done undergraduate work in the U.S. rather than graduate study. These two were not used, resulting in a value of 58 responses (79.4 percent and n=58).

Instrumentation

The instrument used to measure the perceived relevance of U.S. graduate education to career and national agricultural development goals was developed by David Acker for use in his study of Tanzanian participants. After a review of literature, independent and dependent variables were identified. Exhibits 1 and 2 represent the independent and dependent variables as outlined by Acker (1988). Independent variables (Exhibit 1) were grouped into three categories: career, personal, and education variables. The dependent variables were relevance to career goals and national agricultural development goals. Acker identified six components to careers goals in agricultural development and three components of national agricultural development objectives (Exhibit 2). These items were used to break the dependent variables down into sub-groupings. A Likert scale ranking was used to rank the emphasis of training on a particular topic and the relevance of that training to career and national agricultural development goals. The scale of interest in this study is that of relevance of training to the career and national goals. The 5 point Likert scale included extreme rankings of 1 = very relevant and 5 = very irrelevant, with a median value of 3 = neither relevant or irrelevant. For the purpose of this study, the scale was switched to have a higher number be associated with a more positive ranking (5 = very relevant; 1 = very irrelevant).

For the Malawi sample, Acker's instrument was modified slightly for use in the evaluation of the Ministry of Agriculture's National Rural Development Programme V (Long and Jimmerson, 1990). Phrasing of questions in Section II was changed to make specific reference to the National Rural Development Project objectives rather than the general national agricultural development goals. In addition, two questions (3a. and 3b.) in the subgroup of social objectives were combined and the reference to socialism was omitted from the Malawi surveys. A fourth section was added to the Malawi surveys to ascertain the degree to which certain task-oriented and process-oriented skills were improved as a result of U.S. graduate training. There was no comparison data for this section from the Tanzanian sample, therefore it was not used in this study.

The instrument was field tested by Acker on a group of international students at Oregon State University, but no calculations on reliability or validity were made.

Exhibit 1. Demographic Variables by Category
(Taken from Acker, 1988)

Career

Type of Work
Policy Experience
Supervisory Experience
Type of Employer
Job Waiting on Return

Personal

Age
Gender
Socioeconomic Background
International Experience
Agricultural Experience

Education

Educational Background
Periodic Updating
Advising/Counseling
Contact with Home Institution

Exhibit 2. Substantive Variables by Category
(Taken from Acker, 1988)

Careers in Agricultural Development

Training in Discipline
Research Training
Practical Training
Management Training
Social Science/Knowledge Transfer Training
Project Evaluation Training

National Agricultural Development Objectives

Social Objectives
Technical Objectives
Trade Objectives

Data Collection

Graduates of long-term U.S. graduate training were identified using Ministry of Agriculture and U.S.A.I.D. mission records in both Tanzania and Malawi (Acker, 1988, Jimmerson, 1990). Surveys were sent to those individuals with a cover letter from the Ministry of Agriculture official and Acker for the Tanzanian sample, and Dr. Tom Trail, U.S.D.A. Training Officer, for the Malawian sample (Appendix B). Follow-up letters were sent by Acker in Tanzania to individuals who did not respond to the first letter. Dr. Trail followed up with non-responses in Malawi. Between April and

August of 1988, 99 surveys were sent and 86 were returned (86.9 percent) by individuals in Tanzania. Surveys were sent between May and August 1990 to 73 individuals in Malawi and 58 were returned and were deemed usable (79.4 percent).

Data Analysis

Responses to the surveys were coded utilizing the same technique for both samples. The analysis of the data was completed using the SAS statistical package. Data were analyzed using one-way and two-way analysis of variance (ANOVA), descriptive statistics, t-tests, and Duncan's tests. One-way analysis of variance was used to determine if there are any significant differences between the responses on question 19a. and 19b. of the survey with respect to the calculated values of career and national relevance. Questions 19a. and 19b. pertain to the adequacy of the academic advising received by the participants and thus were used to determine if academic advising affected relevance values. Two-way analysis of variance allowed the author to control for three demographic variables (age, gender, and occupation) while examining the effect of academic advising/counseling on relevance to career and national agricultural development goals. A level of .05 probability was selected for acceptance or rejection of the hypotheses. Due to the small number of respondents from both samples (n=86 from Tanzania and n=58 from Malawi), it is difficult to generalize the results to a larger population.

The demographic variables germane to this study were separated for analysis into the following subgroups:

Age:	Under 38 years of age 38 years of age and over
Gender:	Male Female
Occupation of Employer	Government Parastatal Other

The age variable was separated into these two categories based on the median age of the respondents. Although the total number of females from both countries in this study was quite low (n=21), it is important to determine if differences exist based on the gender of the respondent. In addition, the occupation of the respondent's employer could also have an effect on the respondent's perceptions of relevance. Based on the types of employment available in developing countries, the categories of government, parastatal and other were outlined. For the purposes of this study, the term parastatal employment was defined as: "private agencies sponsored by the government." These variables were chosen to determine if factors that exist prior to the training of the individual (age and gender) and those that are present after the training (occupation) have an effect on perceptions of relevance of the training.

Summary

This study was designed to determine the effect of academic advising on the perceived relevance of U.S. graduate education to career and national agricultural development goals for individuals from Tanzania and Malawi. In addition, the demographic variables age, gender, and occupation were controlled for. The population of individuals from which the sample was drawn was identified in both Tanzania and Malawi. The political and social environment of each country and it's possible influence on perceptions of relevance was explained.

An instrument developed for use in the Tanzanian study was modified slightly and reused in the Malawian study. That instrument separated demographic variables into three areas: career, personal, and educational variables. Nine sub-groupings for the dependent variables of career and national agricultural development relevance were outlined.

Data were collected and analyzed using the SAS statistical package to generate descriptive analysis; t-tests; one-way and two-way analysis of variance; and Duncan's tests.

Chapter 4

Results and Discussion

Introduction

The purpose of this study was to determine the effect of academic advising on the perceptions of the relevance of U.S. graduate education to career and national agricultural development goals. The results of this study are presented in this chapter accompanied by a discussion of their importance. This chapter is divided into four sections. The first section compares the two samples on the basis of demographic characteristics. The second section includes the initial comparison of the two samples based on the findings in the areas of relevance of their educational training to career and national agricultural development goals. In the third section, the findings are reported based upon adequacy of academic advising, both prior to leaving their home country and while studying in the U.S. (independent variables) as they pertain to career and national agricultural development goals (dependent variables). A comparison between the Tanzanian and Malawian samples is included. In addition, this section will include a restatement of the hypotheses presented in Chapter 1 and hypothesis testing. This testing includes controlling for three of the demographic (extraneous) variables: gender, age, and type of employer, while examining the effect of academic advising/counseling on the means values for career and national relevance. Finally, a summary of the findings and discussion is also included.

Characteristics of the Samples

Of those individuals responding to the survey in Tanzania, 77 were male (89.5 percent) and 9 were female (10.5 percent). By comparison, 46 of the respondents from Malawi were male (79.3 percent) and 12 were female (20.7 percent). From Tanzania, 93.0 percent of the respondents were age 38 or older (Figure 10). While 60.3 percent of the respondents from Malawi were in the same age group. The range of ages from Tanzania was 33 to 52 and for Malawi was 26 to 46. Overall, the respondents from Malawi were younger. In a related topic, Figure 11 illustrates the years remaining until the respondents reach retirement. For both samples, the majority of respondents have between 10 and 19 years of service remaining before retirement (Tanzania, 74.4 percent and Malawi 56.9 percent). However, 27.6 percent of the respondents from Malawi have over 20 years until retirement, as compared with 15.1 percent from Tanzania. This further illustrates the difference in age between the two groups.

In the area of parents' education, the two samples displayed interesting differences (Figures 12 and 13). In the Tanzania group, 91.9 percent of the sample reported that their father had completed either the primary level of education or none at all. By comparison, only 41.4 percent of the Malawi respondents reported their fathers' education level at the primary level or none. On the other end of the educational spectrum, 31.0 percent of the respondents from Malawi reported their fathers' education

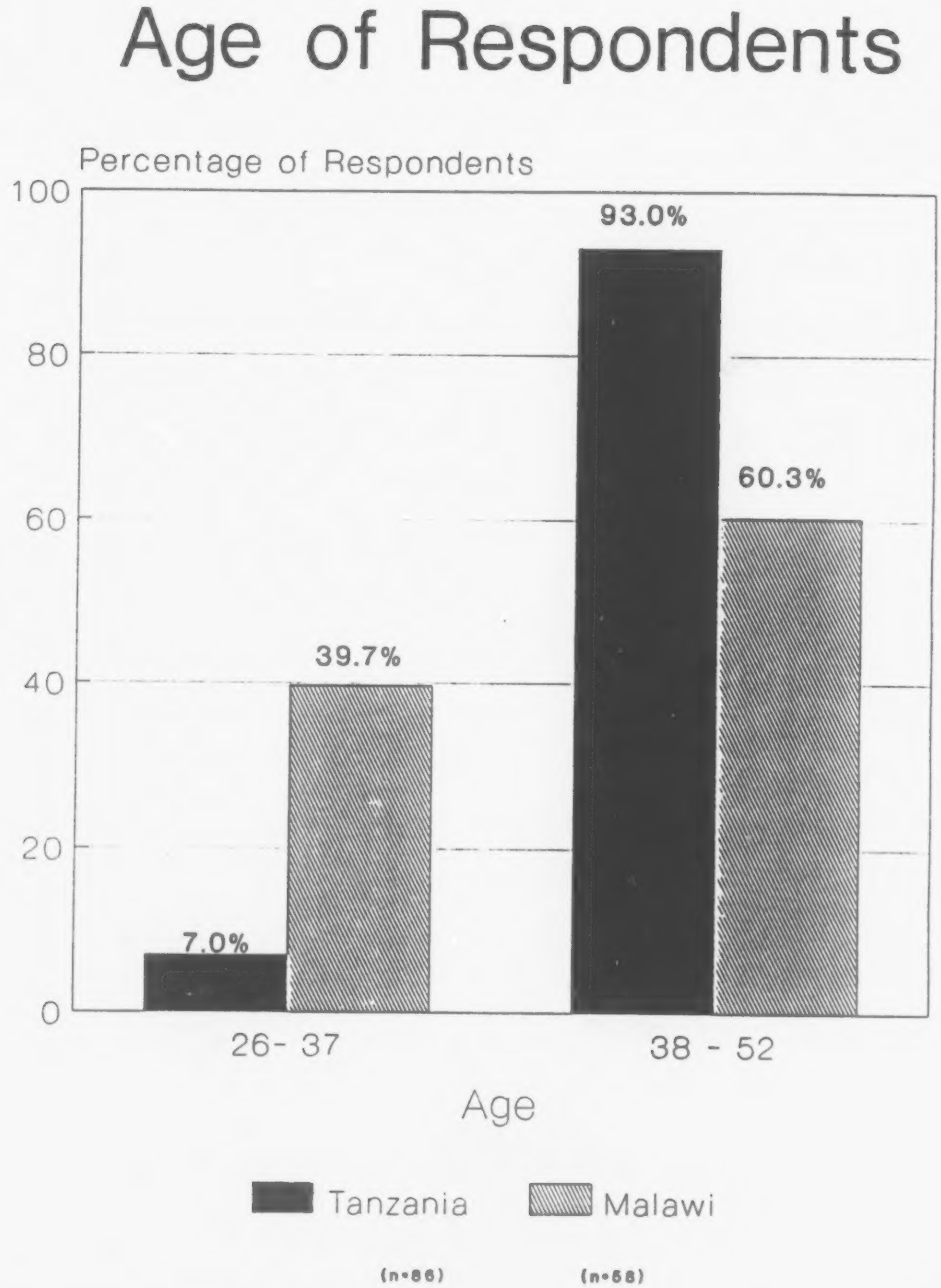

Figure 10. Age of Respondents

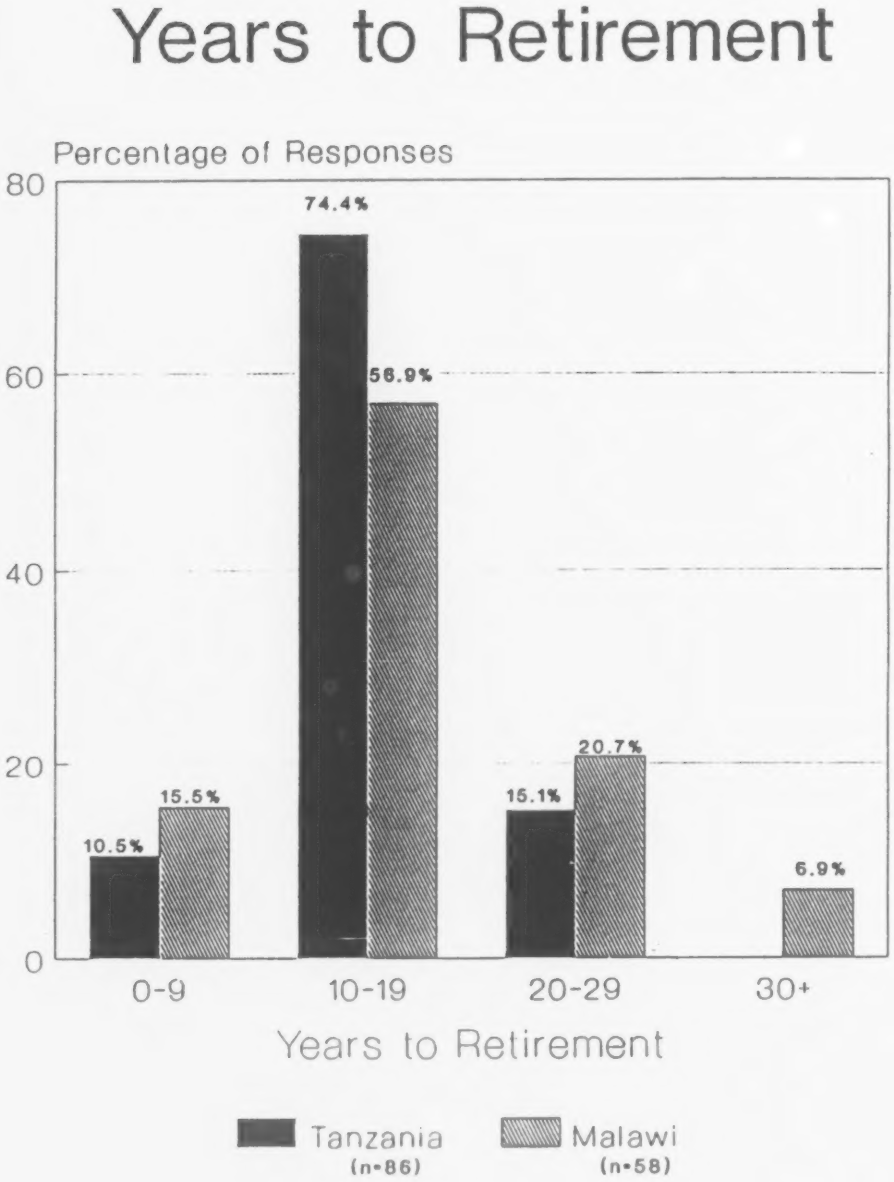

Figure 11. Years to Retirement

level at the post-secondary level or above, as compared with 1.2 percent of the respondents from Tanzania. Mother's education was another area of marked difference between the Tanzanian and Malawian samples. Of the Tanzanian respondents, 96.5 percent reported their mothers' education level at the primary level or none at all. This compared with 55.2 percent of the Malawian respondents who reported their mothers education at the same levels. Figures 12 and 13 illustrate the differences in parents' educational levels. Overall, the parents of the Malawian respondents completed more formalized education than did those of the Tanzanian respondents.

The two samples were quite similar as to where they reported spending the majority of their lives (Figure 14). Less than one-third of the respondents from each country (Tanzania 29.7 percent, Malawi 30.4 percent) reported spending the majority of their lives on the farm, in rural non-farm environments, or in towns of less that 2,000 people. Thirty-seven percent of respondents from Tanzania and 37.5 percent from Malawi lived in areas of populations between 2,000 and 50,000. The remaining one-third (Tanzania 33.3 percent, Malawi 32.1 percent) lived in cities larger than 50,000 people. Ninety-three percent of the respondents from Tanzania reported having experience in production agriculture, as compared with 73.7 percent from Malawi.

The majority of the respondents from both countries completed master's degrees in the U.S., 82.6 percent from Tanzania and 75.9 percent from Malawi. The remainder completed doctoral degrees. Twenty-five percent of the Tanzanians completed degrees in agricultural economics, as

Father's Education

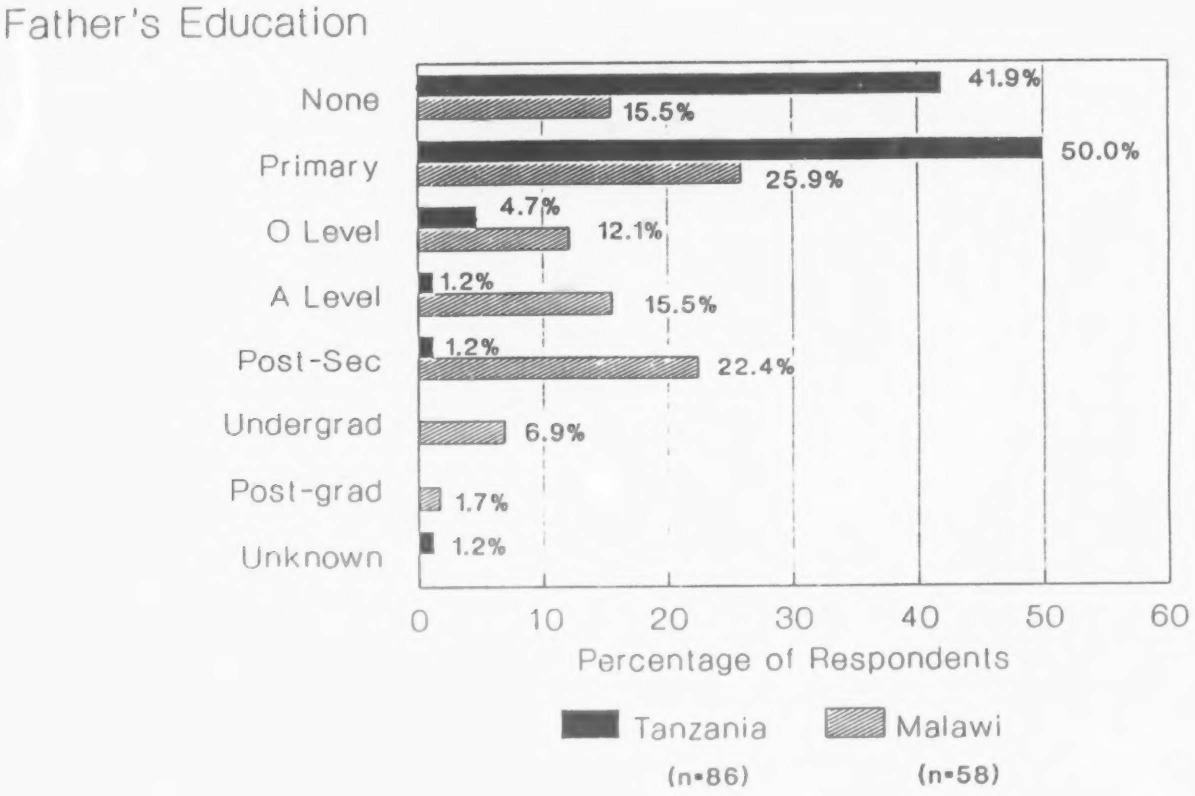

Figure 12. Father's Educational Background

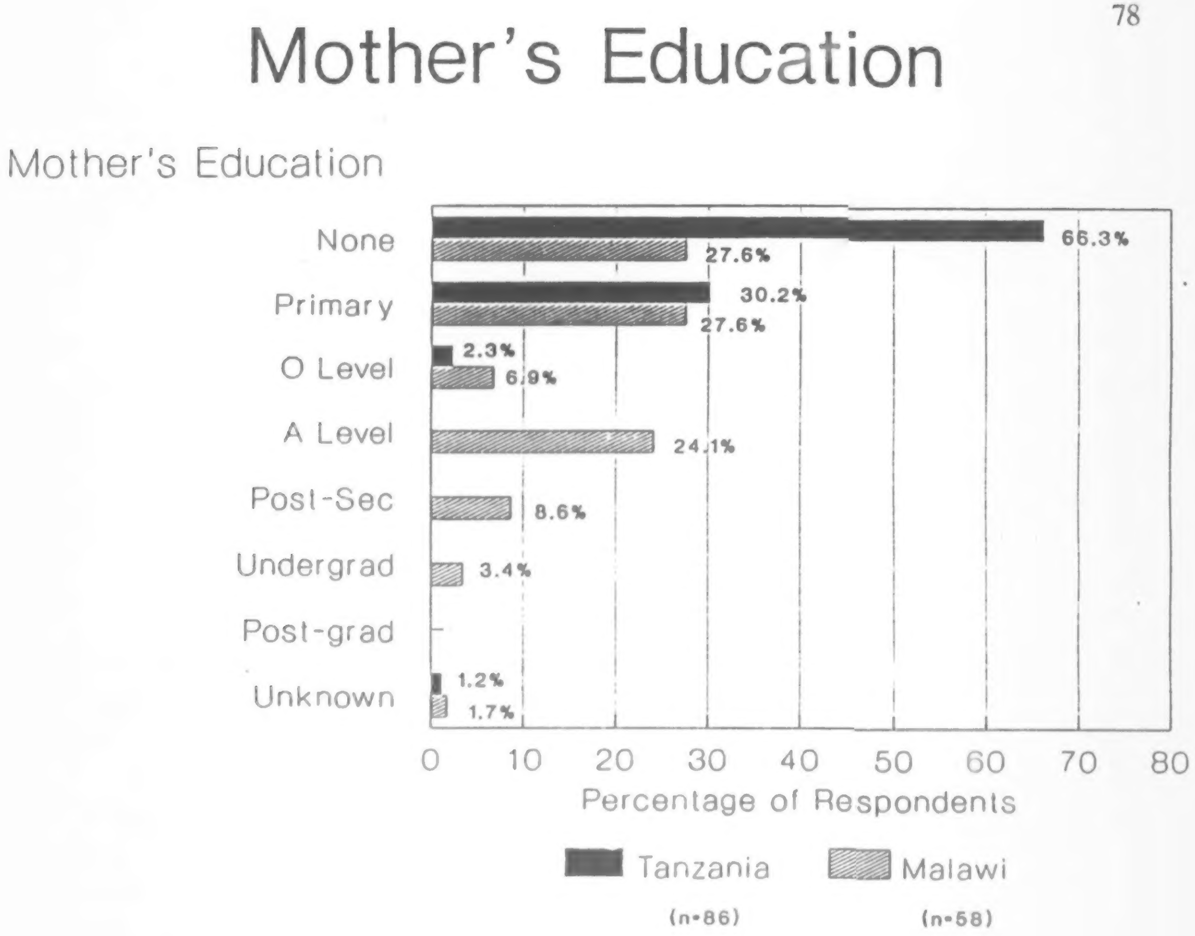

Figure 13. Mother's Educational Background

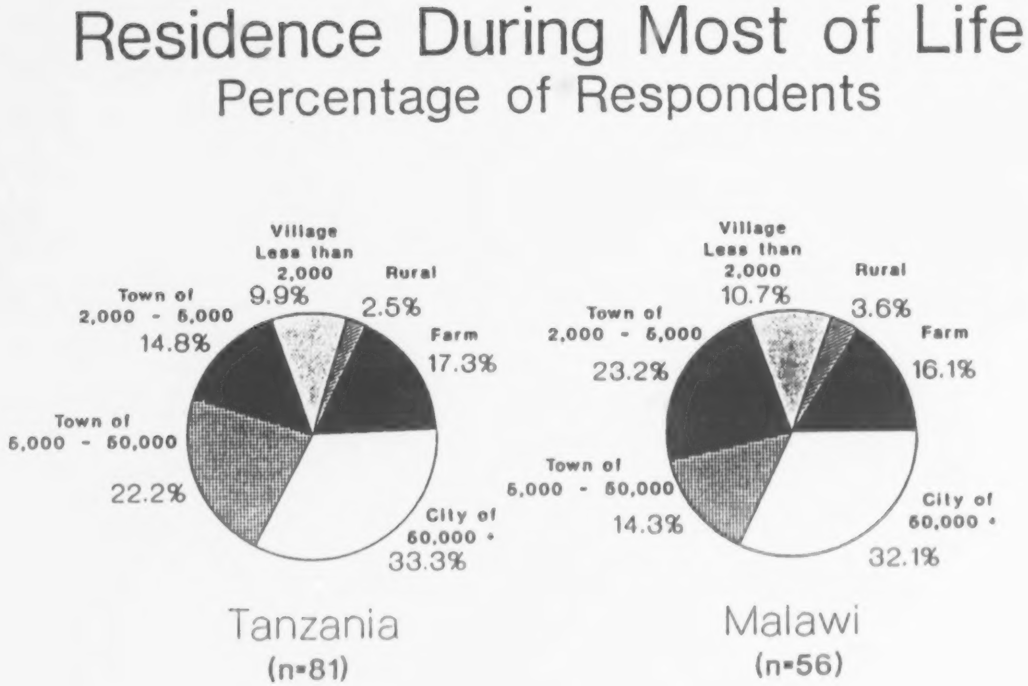

Figure 14. Residence During Most of Life

compared with 13.8 percent of Malawians (Figure 15). Twenty-eight percent of the Tanzanians completed degrees in agronomy, plant breeding, range or soils. Approximately 49 percent of the Malawians completed degrees in the same area. Agricultural education, extension and continuing education was the major of 19.8 percent of Tanzanians and 12.0 percent of Malawians. Entomology, virology, or plant pathology was the focus of 9.4 percent of Tanzanians and 5.1 percent of Malawians. The rest of the individuals majored in other areas such as: animal science, agricultural engineering, and others.

Respondents from Tanzania attended 31 different universities with 51.1 percent attending 5 universities: West Virginia University (15.1 percent), University of Missouri (12.8 percent), Colorado State University (8.1 percent), University of Wisconsin (8.1 percent) and New Mexico State University (7.0 percent). Malawian respondents attended 24 universities with 53.5 percent attending 5 universities: University of Florida (27.6 percent), Michigan State University (8.6 percent), Cornell University (6.9 percent), Colorado State University (5.2 percent), and New Mexico State University (5.2 percent).

Nearly all respondents from Tanzania (94.1 percent) and Malawi (96.5 percent) reported working directly for the government or working for a government parastatal organization. However, the Malawian sample reported a greater number working directly for the government (87.9 percent), in comparison with Tanzania where 37.6 percent reported working directly for the government (Figure 16). Very few individuals from each

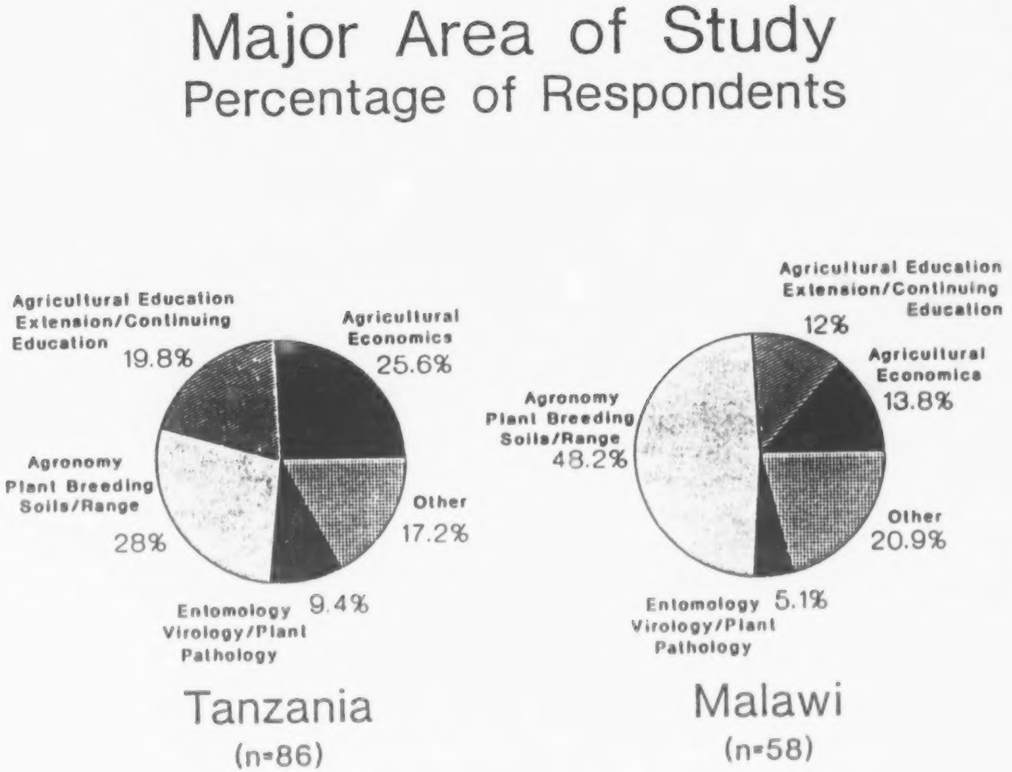

Figure 15. Major Area of Study While in the U.S.

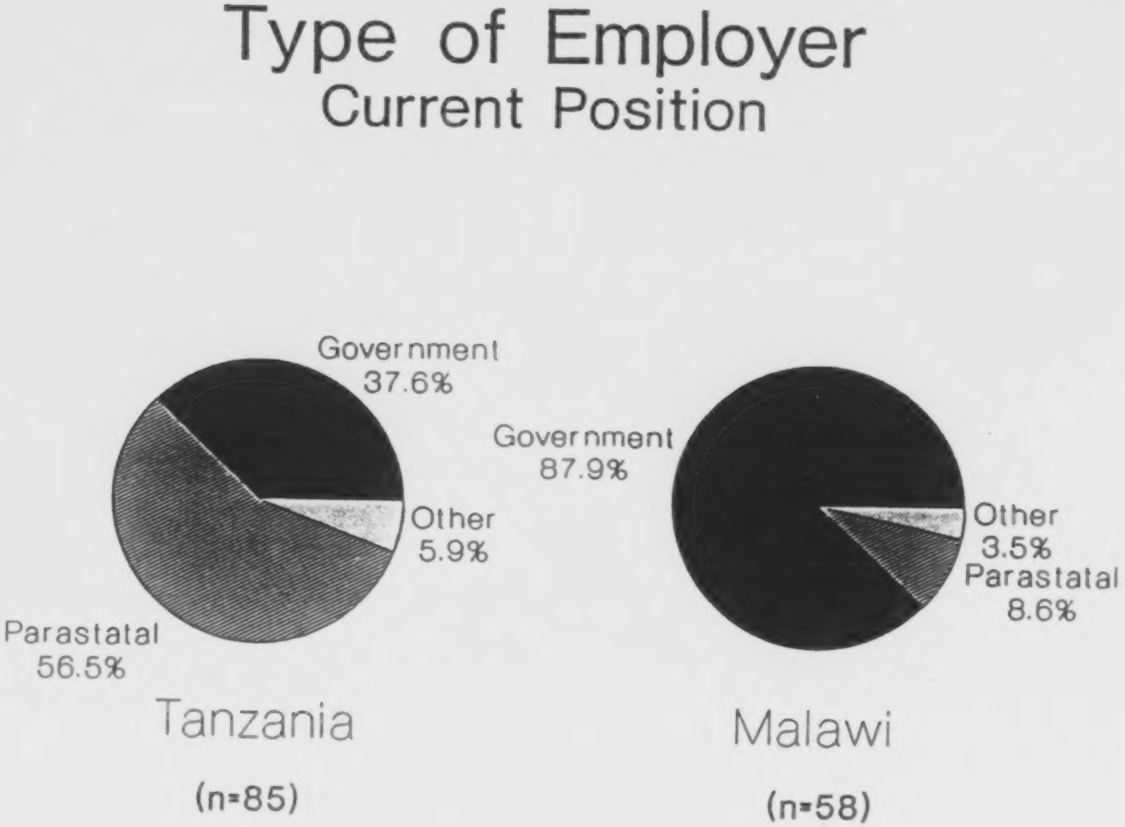

Figure 16. Type of Employer for Currently Held Position

country were working in private industry or other areas (Tanzania 5.9 percent, Malawi 3.5 percent).

The respondents from Tanzania who reported being employed in policy-making positions before their training was 18.8 percent. The figure for Malawi was only 3.6 percent in policy-making positions. The percentage of individuals in policy-making positions in their first job after returning to their home country increased to 25.9 percent in Tanzania, but showed no change in the Malawi sample at 3.5 percent. In their current positions, 37.8 percent of the Tanzanian respondents and 17.2 percent of the Malawian defined their positions as policy-making (Figure 17).

There was no noticeable difference between the two samples with respect to having a job waiting for them. Nearly all individuals (95.3 percent from Tanzania, and 96.2 percent from Malawi) reported that they had a job waiting for them when they returned.

In both the Tanzanian and Malawian groups, the largest group of the individuals (32.6 percent from Tanzania, and 44.8 percent from Malawi) reported working for employers whose main activity was research (Figure 18). Training and education activities were the main activities of the employers of 22.1 percent of respondents from Tanzania and 22.4 percent from Malawi. Planning and administration was the activity of 11.6 percent and 8.6 percent of Tanzanian and Malawian respondents respectively. Fourteen percent of respondents from Tanzania and 22.4 percent from Malawi reported that extension was the main activity of their employer. A small group from each country (4.7 percent from Tanzania, and 1.7 percent

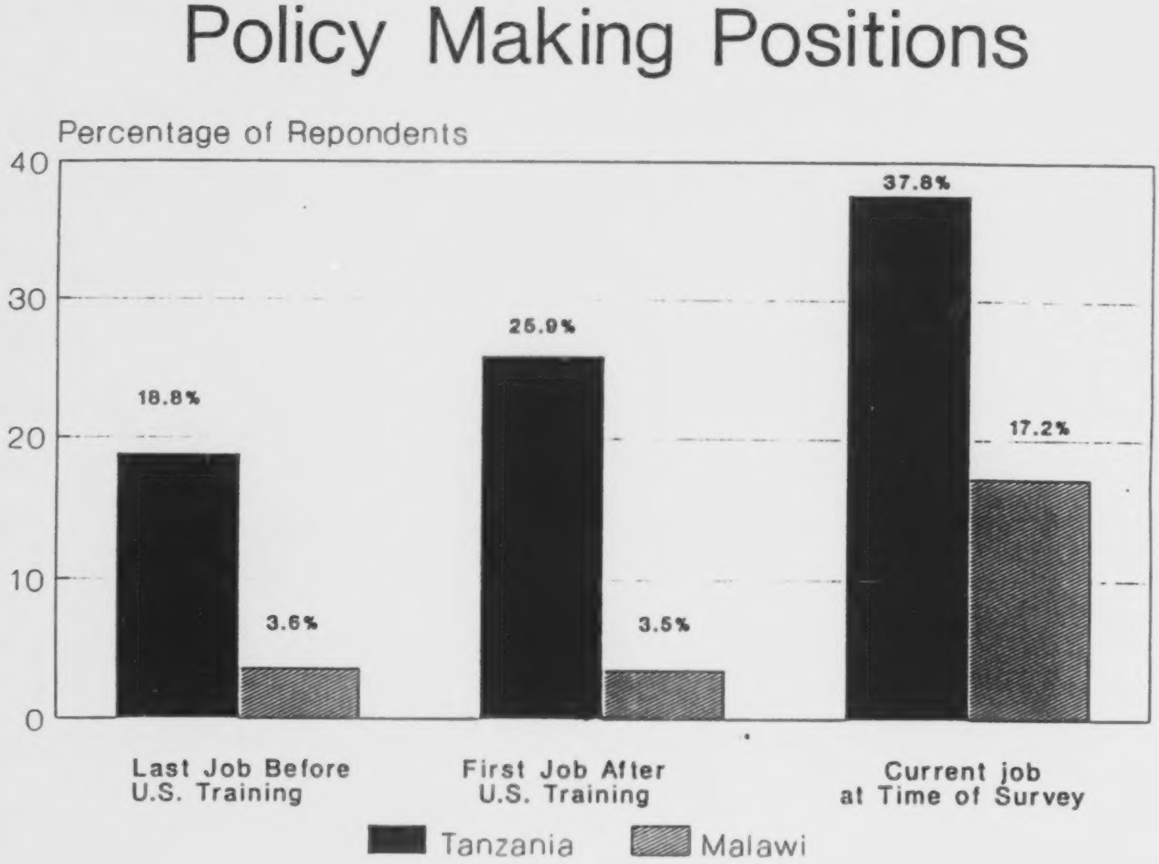

Figure 17. Percentage Currently Employed in Policy Making Positions

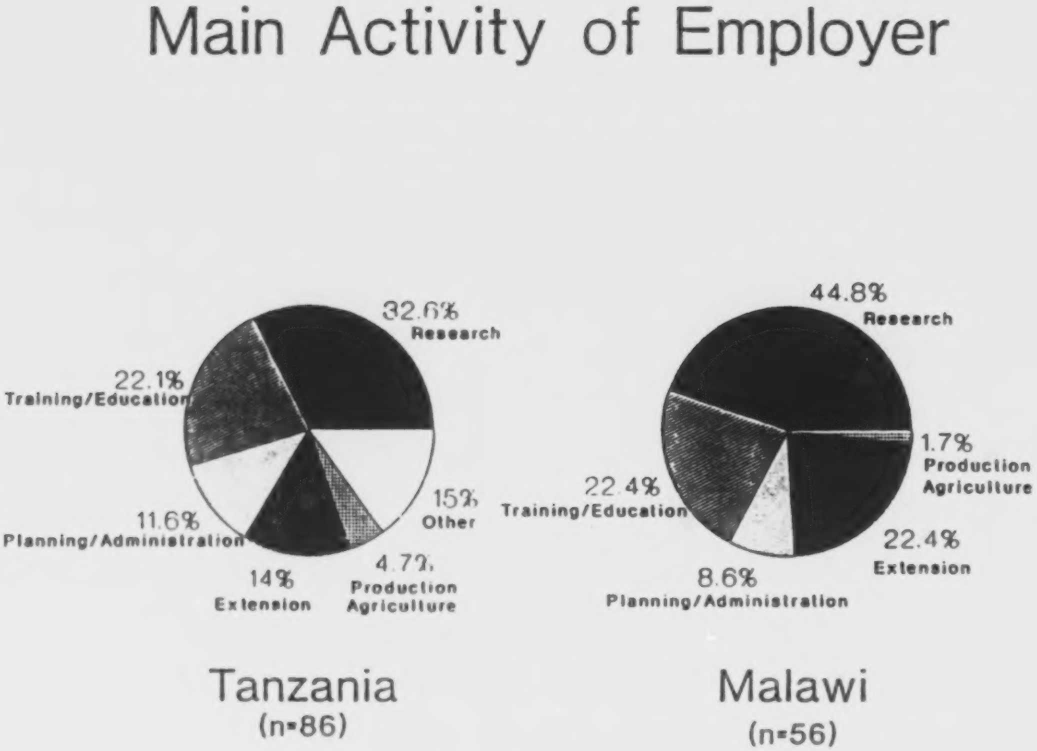

Figure 18. Main Activity of Current Employer

from Malawi) reported production agriculture as the main activity of their employer. The remainder of responses from the Tanzanian sample (15.0 percent) were distributed between other activities.

From these demographic characteristics, a composite could be made of a typical respondent from Tanzania and Malawi. This information exhibits a marked difference between the two groups and refutes one of Acker's assumptions which states that the information gathered in the Tanzanian study was representative of the countries in the region. The demographic characteristics of the samples are also critical when examining perceptions of relevance. Perceptions of relevance could be affected by demographic and social variables. Although these factors are not under the direct control of U.S. institutions, outlining these demographic variables can provide valuable information to selection and placement officials.

Initial Comparison of Data Between Tanzania and Malawi

In Long et al (1991), data comparing the sample from Malawi with Acker's original Tanzanian sample were presented. Long and associates separated data from the two samples into specific clusters. The first 28 questions addressed the issues of emphasis in training and relevance of training to career goals. The responses to these questions were grouped into five clusters: research, disciplinary, management, project analysis, and social change. Means from questions pertaining to each of these clusters were calculated and compared between the two samples (Table 1). In responses from both Tanzania and Malawi, training in research was rated as most relevant and training in social change was rated as least relevant (Long et al, 1991). Overall means for questions pertaining to relevance of U.S. graduate education to the respondents' career were calculated (Table 1). Respondents from Tanzania (mean = 4.04) and Malawi (mean = 3.94) rated their training as "somewhat relevant" to their career. There was no significant difference between the two samples, based on results from t-tests.

Table 1. Relevance of U.S. Graduate Education to Agriculturists' Career (Long et al, 1991)

	Relevance to Career (range: 5 = very relevant; 1 = very irrelevant)	
Area of Graduate Study	Tanzania	Malawi
Research	4.31	4.22
Disciplinary	4.30	4.16
Management	4.03	3.96
Project Analysis	4.03	4.16
Social Change	3.57	3.70
Overall	4.04	3.94

The nine items on the survey pertaining to the relevance of U.S. graduate training to national agricultural development goals were also grouped into three clusters: social objectives, technical objectives, and trade objectives (Table 2). However, means of the responses for these nine items were compared individually rather than in clusters (Long et al, 1991). In every national objective, except agricultural exports for foreign exchange, Tanzanians rated their U.S. graduate education more highly than Malawians (Long et al, 1991). The overall means for these items show a significant difference between the Tanzanian responses (mean = 3.93) and the Malawian responses (mean = 3.35). Tanzanians reported that their training was "somewhat relevant" to the national agricultural development goals, whereas Malawians reported their training between "somewhat relevant" and "neither relevant or irrelevant" (Table 2).

Table 2. Relevance of U.S. Graduate Education for National Agricultural Development (Long et al, 1991)

	Relevance to National Agricultural Development (range: 5 = very relevant; 1 = very irrelevant)	
National Development Objective	Tanzania	Malawi
Social Objectives		
Food self-sufficiency	3.53	3.36
Nutrition	4.43	4.03
Rural living	4.17	3.87
Technical Objectives		
Consumption of staple foods	4.33	3.29
Pool of agricultural experts	3.74	3.51
Irrigated agriculture	4.20	2.88
Trade Objectives		
Food trade	3.88	3.43
Horticultural crops	3.80	2.76
Agricultural exports for foreign exchange	3.38	3.53
Overall	3.93[a]	3.35[a]

[a] significant at $p < .05$

This information provided the background for the presentation and interpretation of the findings from the analysis of relevance based on the adequacy of academic advising. For the purpose of this study, the overall means for relevance to career and to national agricultural development will be paramount.

Effect of Academic Advising on Relevance

To analyze the effect of academic advising on perceived relevance of U.S. graduate training, data were separated according to responses on questions 19a. and 19b. on the survey. These questions sought to determine the adequacy of the academic advising/counseling received by the participant, both prior to leaving their home country and while studying in the U.S. Respondents were asked if their academic advising was adequate, inadequate, or if they did not receive any advising.

The effect of academic advising on career goals (H_1) was analyzed by calculating means for all of the questions pertaining to the relevance of graduate education to the respondents' career goals (Part IB, questions 1-28) according to the reported adequacy of academic advising (questions 19a. and 19b.). Responses were also grouped according to country on this variable for purposes of comparison, as well as by the demographic variables of age, gender and type of employer. Results from a two way analysis of variance examining the effects of academic advising on career goals are presented in Tables 3 - 10.

To examine the effect of academic advising on national agricultural development goals (H_2), means for the questions that pertained to relevance of graduate education to national agricultural development (Part 2B, questions 1 - 9) were calculated. A two-way analysis of variance was used to determine means based on the adequacy of academic advising and the demographic variables of age, gender, and type of employer. In addition, means were calculated based on the country of origin in order to provide comparison data between the two samples. Data from these analyses are presented in Tables 11 - 18. Due to incomplete surveys, the response rate for these items was less than the overall number of surveys returned.

Effect of Academic Advising on the Relevance of Graduate Education to Career Goals (H_1)

Hypothesis 1 (H_1): There is no difference in the perceived relevance of training to career goals based on the two independent variables and three extraneous variables:

Independent Variables
a. presence and/or adequacy of academic advising prior to departure from home country
b. presence and/or adequacy of academic advising in the U.S.

Extraneous Variables
c. gender
d. age
e. type of employer after returning to home country

Presence and/or Adequacy of Academic Advising Prior to Departure and Relevance

Those individuals who reported receiving adequate academic advising prior to leaving their home country indicated that their training was more relevant to their career goals (mean = 4.13) than for those individuals who reported receiving inadequate or no academic advising (Table 3). However, the results were not significant at the .05 probability level according to Duncan test results, therefore Hypothesis 1a. was accepted.

Respondents from Tanzania perceived that their graduate education was more relevant to their career goals than did those from Malawi. This was evident by the overall means for each country and the specific means that pertained to the adequacy of academic advising. Of the respondents from Tanzania, 39.7 percent reported adequate academic advising prior to leaving their home country. This compared to 37.2 percent from Malawi. The percentage of individuals overall who reported adequate academic advising prior to leaving their home country was 38.8. In comparison, 29.8 percent reported receiving inadequate academic advising and 31.3 percent reported receiving no academic advising at all prior to leaving their home country (Figure 19). There were no major differences in the numbers of individuals from each country who reported adequate, inadequate or absent academic advising.

Table 3. Effect of academic advising prior to leaving home country on relevance of education to career goals. Comparison by country.

	Relevance of Education to Career Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising Prior to Departure from Home Country			
Country of Origin	Adequate	Inadequate	Did Not Receive	Overall Mean
Tanzania (n=83)	4.18 (n=33)	3.92 (n=26)	4.00 (n=24)	4.05
Malawi (n=51)	4.06 (n=19)	3.90 (n=14)	3.84 (n=18)	3.94
Combined Mean (n=134)	4.13 (n=52)	3.91 (n=40)	3.93 (n=42)	

Presence and/or Adequacy of Academic Advising While in U.S. and Relevance

The effect of academic advising received while studying in the U.S. on perceived relevance of graduate education to career goals is exhibited in Table 4. Based upon Duncan test results, there is no significant difference ($p<.05$) between the means of individuals who reported adequate academic advising (mean = 4.03) as compared with those who reported inadequate academic advising (mean = 3.91), and those who reported not receiving academic advising (mean = 3.93). Therefore hypothesis H_1b. is accepted (Table 4).

Table 4. Effect of academic advising while studying in the U.S. on relevance of education to career goals. Comparison by country.

	Relevance of Education to Career Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising While Studying in the U.S.			
Country of Origin	Adequate	Inadequate	Did Not Receive	Overall Mean
Tanzania (n=82)	4.05 (n=69)	3.91 (n=6)	4.00 (n=7)	4.04
Malawi (n=51)	3.97 (n=29)	3.90 (n=15)	3.83 (n=7)	3.94
Combined Mean (n=133)	4.03 (n=98)	3.91 (n=21)	3.93 (n=14)	

Of the respondents, 73.7 percent reported receiving adequate academic advising in the U.S. Eighty-four percent of the Tanzanians ranked their academic advising as being adequate compared with 56.8 percent of the Malawians. A total of 14 individuals from both samples out of 133 respondents reported receiving no academic advising while studying in the

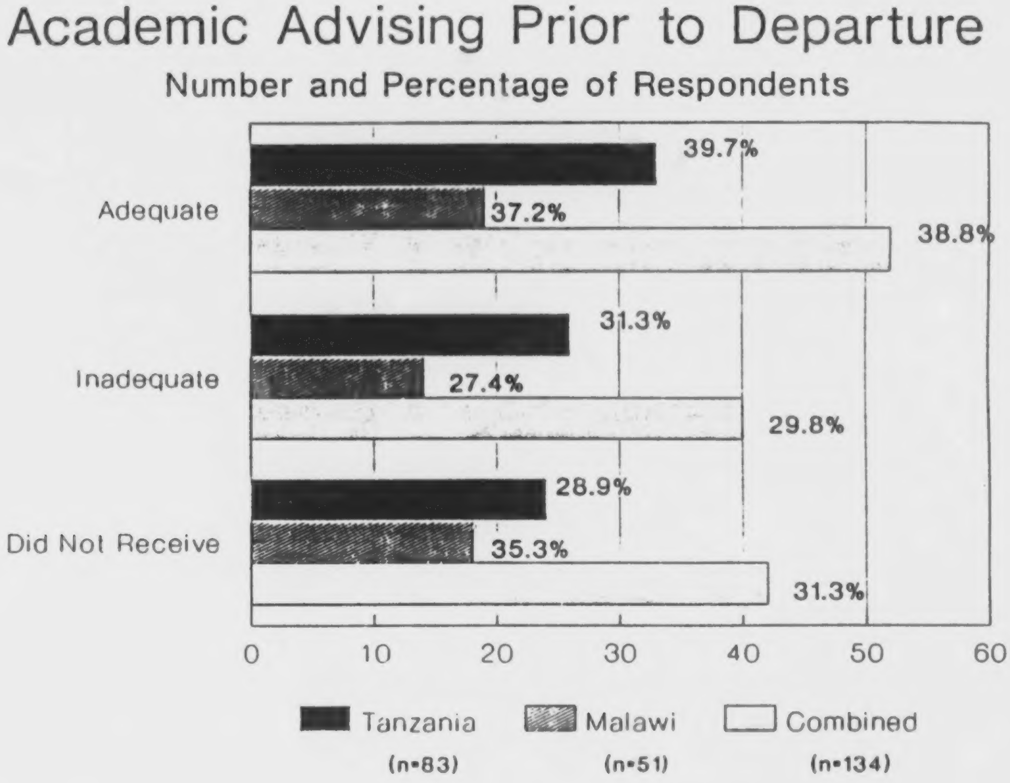

Figure 19. Academic Advising Prior to Departure from Home Country - Number and Percentage of Respondents

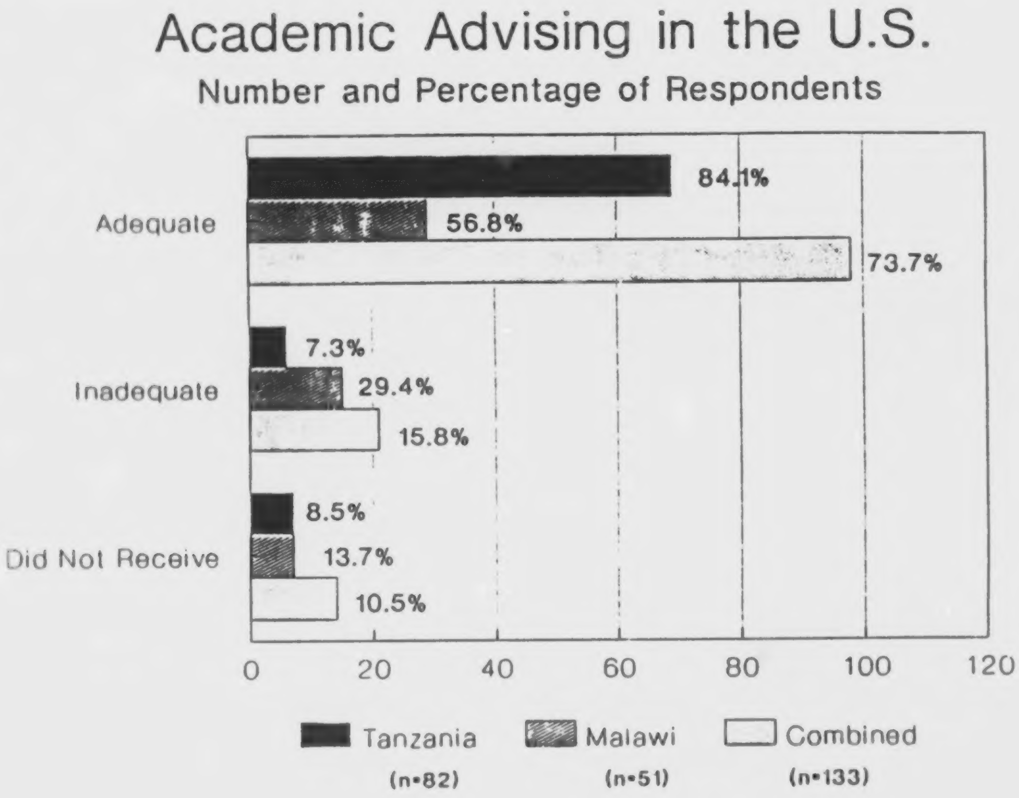

Figure 20. Academic Advising While in the U.S. - Number and Percentage of Respondents

U.S. (10.5 percent). Twenty-one respondents ranked their academic advising as inadequate (15.8 percent) (Figure 20).

Gender and Relevance

Hypothesis 1c. stated that there is no difference between males and females in the effect of academic advising on their perceptions of the relevance of education to career objectives. Tables 5 and 6 display the results from the analysis based on gender. Both pre-departure academic advising and advising received while in the U.S. must be examined to determine if the hypothesis should be accepted or rejected.

The effect of academic advising prior to leaving their home country is represented in Table 5. The number of females in this sample is quite small (n=19) with respect to the total number (n=115), however there were enough females to determine if there were any noticeable trends with respect to relevancy. Overall, females reported their education to be more relevant to their career goals than did males (mean = 4.10; mean = 3.99) (Table 5). The four females (21 percent) who reported receiving inadequate academic advising prior to leaving their home countries rated their U.S. graduate education more relevant than did the nine females (47.4 percent) who reported receiving adequate pre-departure advising. However, since the numbers of respondents are small, the means are more susceptible to extreme responses. Therefore, these means should be interpreted with caution.

Table 5. Effect of academic advising prior to leaving home country on relevance of education to career goals. Comparison by gender.

	Relevance of Education to Career Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising Prior to Departure from Home Country			
Gender	Adequate	Inadequate	Did Not Receive	Overall Mean
Male (n = 115)	4.14 (n = 43)	3.88 (n = 36)	3.92 (n = 36)	3.99
Female (n = 19)	4.12 (n = 9)	4.20 (n = 4)	4.01 (n = 6)	4.10
Combined Mean (n = 134)	4.13 (n = 52)	3.92 (n = 40)	3.94 (n = 42)	

The data outlining the effect of academic advising received while studying in the U.S. is presented in Table 6. After Duncan tests were completed, no significant difference ($p < .05$) between the means for males and females with respect to relevance of education to their career goals was found. Therefore, H_1c is accepted.

Females reported their education to be more relevant to their career aims than did males. Again, the females who reported receiving inadequate academic advising while in the U.S. rated their education to be more relevant than the females reporting adequate academic advising. However, only two females reported receiving inadequate academic advising. Overall 73.7 percent of the respondents (71.9 percent of the males and 84.2 percent of the females) reported receiving adequate advising while in the U.S. and they rated their training as being somewhat relevant to their career objectives (mean = 4.03). Only 10.5 percent of the respondents reported receiving no academic advising at all while in the U.S (Table 6).

Table 6. Effect of academic advising while studying in the U.S. on relevance of education to career goals. Comparison by gender.

	Relevance of Education to Career Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising While Studying in the U.S.			
Gender	Adequate	Inadequate	Did Not Receive	Overall Mean
Male (n=114)	4.02 (n=82)	3.86 (n=19)	3.93 (n=13)	3.99
Female (n=19)	4.08 (n=16)	4.36 (n=2)	3.84 (n=1)	4.10
Combined Mean (n=133)	4.03 (n=98)	3.91 (n=21)	3.92 (n=14)	

Age and Relevance

Hypothesis 1d stated that there is no difference in the perceptions of the relevance of graduate education to career goals based on adequacy of academic advising and age. Means calculated based on the adequacy of academic advising prior to leaving their home countries and while studying in the U.S. determined whether the hypothesis was accepted or rejected. The effect of academic advising on perceptions of relevance of U.S. graduate education with respect to age is represented in Tables 7 and 8.

Based on the range of possible ages (26-52 years of age), two categories were selected to examine the influence of age with respect to academic advising and career relevance. Those categories were individuals under 38 years of age and individuals who were 38 years of age or over. Twenty-three individuals were under 38 years of age and 111 were 38 years old or older.

Thirty percent of the individuals under the age of 38 reported receiving adequate academic advising prior to leaving their home country (Table 7). Forty percent of the 38 and over age group reported receiving adequate pre-departure academic advising. The means calculated for relevance of training to career goals were essentially the same for each group (for under 38 group mean = 4.03; for 38 and over group mean = 4.00). Both groups rated their education to be somewhat relevant to their career objectives (Table 7).

Table 7. Effect of academic advising prior to leaving home country on relevance of education to career goals. Comparison by age.

	Relevance of Education to Career Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising Prior to Departure from Home Country			
Age	Adequate	Inadequate	Did Not Receive	Overall Mean
Under 38 (n=23)	4.26 (n=7)	4.00 (n=7)	3.86 (n=9)	4.03
38 and Over (n=111)	4.11 (n=45)	3.89 (n=33)	3.95 (n=33)	4.00
Combined Mean (n=134)	4.14 (n=52)	3.92 (n=40)	3.94 (n=42)	

The effect of academic advising while in the U.S. was outlined in Table 8. The overall means for relevance of education to career goals are virtually the same as the overall means based on the adequacy of pre-departure advising. The overall means for the relevance of U.S. graduate education to career goals between age groups are not significantly different ($p<.05$), based upon Duncan test analysis, consequently H_1d is accepted.

Seventy-five percent of the respondents 38 years old or older reported receiving adequate academic advising in the U.S. and the mean for relevance of their graduate training to their careers was 4.02 (somewhat relevant). Of the respondents in the under 38 age group, 65.2 percent reported receiving adequate academic advising. Their mean career relevance score was 4.11; a little higher than the over 38 age group. Thirty percent of the respondents under the age of 38 (n=7) reported receiving inadequate academic advising. This compared with 12.7 percent (n=14) of individuals from the 38 and older age group. Only one individual under the age of 38 reported not receiving any academic advising in the U.S.(Table 8).

Table 8. Effect of academic advising while studying in the U.S. on relevance of education to career goals. Comparison by age.

	Relevance of Education to Career Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising While Studying in the U.S.			
Age	Adequate	Inadequate	Did Not Receive	Overall Mean
Under 38 (n=23)	4.11 (n=15)	3.87 (n=7)	3.84 (n=1)	4.03
38 and Over (n=110)	4.02 (n=83)	3.92 (n=14)	3.93 (n=13)	3.99
Combined Mean (n=133)	4.03 (n=98)	3.91 (n=21)	3.92 (n=14)	

Type of Employer and Relevance

The final part of Hypothesis 1 (H_1e) pertained to the effect of academic advising on perceptions of relevance of graduate education to career goals based upon the type of employer the respondent listed as their employer. Question 11 on the survey asked what type of employer they were currently employed by. Possible responses were self, government, parastatal, private or other. Three categories of employer were identified for this study: government, parastatal, and other. Because of the small number of individuals self-employed or employed by private companies, responses in these categories were combined into the "other" category. Data from these analyses are represented in Tables 9 and 10.

Over half (55.6 percent; n=74 on Table 9 and 55.3 percent n=73 on Table 10) of the respondents were employed by government agencies. Thirty nine percent (n=52) were employed by agencies who served a parastatal function. The remaining 5.4 percent (n=7) were employed by private companies, self-employed or had other employers.

The respondents who reported being employed in "other" areas rated their U.S. graduate education as being most relevant to their career goals (mean = 4.18). However, the small numbers in this group make this mean value more subject to extreme rankings, consequently this number must be interpreted cautiously. According to the Duncan test performed on this data, the overall means are not significantly different at the .05 probability level.

Table 9. Effect of academic advising prior to leaving home country on relevance of education to career goals. Comparison by type of employer.

	Relevance of Education to Career Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising Prior to Departure from Home Country			
Type of Employer	Adequate	Inadequate	Did Not Receive	Overall Mean
Government (n=74)	4.22 (n=30)	3.92 (n=21)	3.95 (n=23)	4.05
Parastatal (n=52)	3.96 (n=18)	3.89 (n=16)	3.90 (n=18)	3.92
Other (n=7)	4.28 (n=4)	3.95 (n=2)	4.22 (n=1)	4.18
Combined Mean (n=133)	4.13 (n=52)	3.91 (n=39)	3.94 (n=42)	

Thirty-one percent of the government employees reported receiving no academic advising prior to leaving their home country. This compared with 34.6 percent of the parastatal and 14.3 percent of "other". Fifty-seven percent of the "other" group reported receiving adequate pre-departure academic advising and they rated the relevance of their graduate training to their career goals as being the highest at 4.28. Once again, the small sample size must be acknowledged in the interpretation of this mean. By comparison, 40.5 percent of government employees reported receiving adequate pre-departure academic advising and had a mean career relevance rating of 4.22. Parastatal employees who reported receiving adequate academic advising prior to leaving their home country (34.6) had a mean career relevance value of 3.96 (Table 9).

Table 10 represented the effect of academic advising while in the U.S. on the perceived relevance of graduate education to career goals. The analysis of relevance is also based on the demographic variable: type of employer.

Respondents employed in areas other than government and parastatal agencies reported their graduate education as being the most relevant to their career goals (mean = 4.18). Government employees rated their education as somewhat relevant (mean = 4.04), as did parastatal employees (mean = 3.92). The overall means for all groups were not significant at the .05 probability level, according to Duncan tests, therefore H_1e is accepted.

Seventy percent of government employees (n=51) reported receiving adequate academic advising while studying in the U.S. By comparison, only 34.6 percent (n=18) of parastatal employees reported receiving adequate U.S. advising. The same percentage of parastatal employees (34.6 percent; n=18) reported receiving no academic advising in the U.S., yet their career relevance mean was not significantly different from those who received adequate advising. Parastatal employees who received inadequate academic advising while in the U.S. rated their training as the least relevant of any group based on type of employer (mean = 3.70).

Table 10. Effect of academic advising while studying in the U.S. on relevance of education to career goals. Comparison by type of employer.

	Relevance of Education to Career Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising While Studying in the U.S.			
Type of Employer	Adequate	Inadequate	Did Not Receive	Overall Mean
Government (n=73)	4.10 (n=51)	3.95 (n=15)	3.83 (n=7)	4.04
Parastatal (n=52)	3.93 (n=18)	3.70 (n=16)	4.01 (n=18)	3.92
Other (n=7)	4.17 (n=6)	4.22 (n=1)	No Response	4.18
Combined Mean (n=132)	4.03 (n=97)	3.91 (n=21)	3.92 (n=14)	

Effect of Academic Advising on the Relevance of Graduate Education to National Agricultural Development Goals (H_2)

Hypothesis 2 (H_2): There is no difference in the perceived relevance of training to national agricultural development based on the two independent variables and three extraneous variables:

Independent Variables
a. presence and/or adequacy of academic advising prior to departure from home country
b. presence and/or adequacy of academic advising in the U.S.
Extraneous Variables
c. gender
d. age
e. type of employer after returning to home country

Presence and/or Adequacy of Academic Advising Prior to Departure and Relevance

The effect of academic advising on national agricultural development goals is presented in Tables 11 - 18. Individuals who reported receiving adequate academic advising prior to leaving their home country rated their graduate educational experience as more relevant to their country's national agricultural goals (mean = 3.76), than did those who reported receiving inadequate advising (mean = 3.63) and those who received no pre-departure academic advising at all (mean = 3.70) (Table 11). However, the differences were not significant at the .05 probability level according to the results of the Duncan's analysis, therefore the Hypothesis 2a is accepted.

Table 11. Effect of academic advising prior to leaving home country on relevance of education to national agricultural development goals. Comparison by country.

	Relevance of Education to National Agriculture Development Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising Prior to Departure from Home Country			
Country of Origin	Adequate	Inadequate	Did Not Receive	Overall Mean
Tanzania (n=80)	4.03^{b} (n=33)	3.92^{c} (n=24)	3.80 (n=23)	3.93^{a}
Malawi (n=51)	3.30^{b} (n=19)	3.13^{c} (n=14)	3.57 (n=18)	3.35^{a}
Combined Mean (n=131)	3.76 (n=52)	3.63 (n=38)	3.70 (n=41)	

[a] significant at $p<.05$
[b] significant at $p<.05$
[c] significant at $p<.05$

As reported by Long et al (1991), significant differences ($p<.05$) exist between the responses from Tanzania and Malawi. Tanzanians rated their educational experience as somewhat relevant to national agricultural development goals (mean = 3.93), whereas Malawians rated their education much less relevant to national agricultural development goals (mean = 3.35). Significant differences exist between the two countries with respect to the relevance of graduate education, but not with respect to the adequacy of academic advising prior to departure from home country.

Presence and/or Adequacy of Academic Advising While in the U.S. and Relevance

The effect of U.S. academic advising on the perceptions of relevance of graduate education to national agricultural development goals is illustrated in Table 12. There is no significant difference ($p<.05$) between respondents who reported adequate academic advising (mean = 3.76), individuals who reported inadequate academic advising (mean = 3.57), and those who reported receiving no academic advising in the U.S.(mean = 3.48) with respect to the relevance of their graduate training to national agricultural development goals. Therefore, hypothesis 2b is accepted.

Eighty three percent of the respondents from Tanzania reported receiving adequate academic advising and 7.6 percent reported receiving inadequate academic advising. This compared to 56.9 percent and 29.4 percent respectively from the Malawi sample. Overall, 73.1 percent of the respondents reported receiving adequate academic advising in the U.S., 16.1 percent reported inadequate academic advising and 10.8 percent reported receiving no academic advising at all.

Table 12. Effect of academic advising while studying in the U.S. on relevance of education to national agricultural development goals. Comparison by country.

	Relevance of Education to National Agriculture Development Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising While Studying in the U.S.			
Country of Origin	Adequate	Inadequate	Did Not Receive	Overall Mean
Tanzania (n=79)	3.95^b (n=66)	3.47 (n=6)	4.16^c (n=7)	3.93^a
Malawi (n=51)	3.34^b (n=29)	3.61 (n=15)	2.79^c (n=7)	3.34^a
Combined Mean (n=130)	3.76 (n=95)	3.57 (n=21)	3.48 (n=14)	

[a] significant at $p<.05$
[b] significant at $p<.05$
[c] significant at $p<.05$

There were significant differences between the two countries with respect to the perceptions of relevance of their graduate programs. Overall means for the relevance of graduate training to national agricultural development goals were 3.93 for Tanzania and 3.34 for Malawi (significant at $p<.05$). Respondents from Tanzania who reported receiving no academic advising in the U.S. rated their program as the most relevant to their country's national agricultural development goals (mean = 4.16). Whereas, those individuals from Malawi who reported receiving no academic advising while in the U.S. rated their program as the least relevant to their country's national agricultural development goals (mean = 2.79). This difference was significant at the .05 probability level according to analysis of the results from Duncan's test.

Gender and Relevance

Hypothesis 2c explored the effect of academic advising and gender on perceptions of relevance of training to national agricultural development goals. Tables 13 and 14 display the results from these analyses. The results from the analysis of pre-departure academic advising is presented in Table 13, while Table 14 has the data from academic advising received in the U.S.

Overall males reported their training as somewhat more relevant to their country's national agricultural development goals (mean = 3.72) than did females (mean = 3.60). However, the difference was quite small and not significant at the .05 probability level. The number of female respondents was only 19, therefore some caution should be exhibited in the interpretation of results. In addition, males who reported receiving adequate pre-departure academic advising reported their training as more relevant than did females (means = 3.80 and 3.56 respectively).

Table 13. Effect of academic advising prior to leaving home country on relevance of education to national agricultural development goals. Comparison by gender.

	Relevance of Education to National Agriculture Development Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising Prior to Departure from Home Country			
Gender	Adequate	Inadequate	Did Not Receive	Overall Mean
Male (n=112)	3.80 (n=43)	3.64 (n=34)	3.71 (n=35)	3.72
Female (n=19)	3.56 (n=9)	3.61 (n=4)	3.66 (n=6)	3.60
Combined Mean (n=131)	3.76 (n=52)	3.63 (n=38)	3.70 (n=41)	

The presence and/or adequacy of academic advising in the U.S. and its effect on relevance with respect to gender is presented in Table 14. Both males and females who reported receiving adequate academic advising while studying in the U.S. rated their graduate educational experience as somewhat relevant (mean = 3.78 for males; mean = 3.71 for females) to their national agricultural development goals. Means for respondents who reported receiving adequate academic advising, inadequate academic advising, and no academic advising while studying in the U.S. were not significantly different (p<.05) according to Duncan's test analysis. Hypothesis 2c is therefore accepted.

Table 14. Effect of academic advising while studying in the U.S. on relevance of education to national agricultural development goals. Comparison by gender.

	Relevance of Education to National Agriculture Development Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising While Studying in the U.S.			
Gender	Adequate	Inadequate	Did Not Receive	Overall Mean
Male (n=111)	3.78 (n=79)	3.58 (n=19)	3.58 (n=13)	3.72
Female (n=19)	3.71 (n=16)	3.44 (n=2)	2.22 (n=1)	3.60
Combined Mean (n=130)	3.76 (n=95)	3.57 (n=21)	3.48 (n=14)	

Eighty-four percent of the females and seventy-one percent of the males reported receiving adequate U.S. academic advising. The one individual reported receiving no academic advising while in the U.S. rated the relevance of her graduate education as somewhat irrelevant (mean = 2.22).

Age and Relevance

Analysis of the effect of age on perceptions of national relevance (H_2d) and the presence or adequacy of academic advising, both prior to leaving their home country and while in the U.S., is displayed in Tables 15 and 16.

The analysis of the effect of academic advising received prior to departure and age on the relevance of graduate training to national agricultural development goals is exhibited in Table 15. The data revealed no significant differences between the different age groups and responses on the adequacy of academic advising with respect to national relevance. Overall, the age 38 and over group found their training to be more relevant (mean = 3.76) than the under 38 age group (mean = 3.45). However, these differences were not significant at the .05 probability level.

In the under 38 age category, 39.1 percent of the respondents (n=9) reported receiving no pre-departure academic advising. By comparison, 30.5 percent of the respondents in the 38 and over category (n=32) reported receiving no pre-departure academic advising. Individuals who reported receiving adequate academic advising prior to leaving their home country were 30.4 percent in the under 38 age group (n=7) and 42.9 percent in the 38 and over group (n=45).

Table 15. Effect of academic advising prior to leaving home country on relevance of education to national agricultural development goals. Comparison by age.

	Relevance of Education to National Agriculture Development Goals (range: 5 = very relevant; 1 = very irrelevant)			
	Adequacy of Academic Advising Prior to Departure from Home Country			
Age	Adequate	Inadequate	Did Not Receive	Overall Mean
Under 38 (n = 23)	3.46 (n = 7)	3.22 (n = 9)	3.62 (n = 9)	3.45
38 and Over (n = 105)	3.81 (n = 45)	3.73 (n = 31)	3.72 (n = 32)	3.76
Combined Mean (n = 131)	3.76 (n = 52)	3.63 (n = 38)	3.72 (n = 32)	

To determine the full effect of academic advising and age on relevance of training to national agricultural development, the data displayed in Table 16 must also be examined. Table 16 addressed the adequacy of academic advising participants received while studying in the U.S. separated with respect to age. There were only 23 individuals under the age of 38, but the data still has merit. Those individuals who reported receiving adequate academic advising while in the U.S. rated their training as more relevant (mean = 3.76) than those who received inadequate advising (mean = 3.57) and those who reported no academic advising (mean = 3.48). These differences were not significant ($p<.05$) according to Duncan's test results, so hypothesis 2d is accepted.

Table 16. Effect of academic advising while studying in the U.S. on relevance of education to national agricultural development goals. Comparison by age.

	Relevance of Education to National Agriculture Development Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising While Studying in the U.S.			
Age	Adequate	Inadequate	Did Not Receive	Overall Mean
Under 38 (n=23)	3.47 (n=15)	3.57 (n=7)	2.22 (n=1)	3.45
38 and Over (n=107)	3.82 (n=80)	3.57 (n=14)	3.58 (n=13)	3.76
Combined Mean (n=130)	3.76 (n=95)	3.57 (n=21)	3.48 (n=14)	

Almost 75 percent (78.4 percent) of the respondents who were age 38 or over reported receiving adequate academic advising in the U.S. (n=80). This compared to 65.2 percent of those respondents under age 38 (n=15). Only one individual under age 38 reported receiving no academic advising in the U.S. That same respondent reported his/her training as somewhat irrelevant to their national agricultural development goals (mean = 2.22).

Type of Employer and Relevance

The final hypothesis (H_2e) stated that there was no difference between the perceptions of relevance of graduate education to national agricultural development goals based on the presence or adequacy of academic advising and type of employer. Tables 17 and 18 display the results of the analysis based on academic advising, both prior to departure and while in the U.S., and type of employer.

Table 17 show that there is no significant difference ($p < .05$) between the means for the relevance of graduate education to national agricultural development goals based on pre-departure academic advising. Individuals who reported receiving adequate academic advising had a mean of 3.76 ($n = 52$), while those who reported inadequate academic advising had a mean of 3.62 ($n = 37$). Finally, individuals who reported receiving no pre-departure advising had a mean of 3.70 ($n = 70$). However, there was a significant difference based on type of employer.

Individuals who worked for those organizations included in the "other" category, which include private industry, reported their graduate education significantly more relevant (mean = 4.15) than those working for governmental (mean = 3.59) and parastatal organizations (mean = 3.80). Some caution must be used in interpreting this result due to the small numbers of individuals in the other employment category ($n = 7$).

Government employees who reported receiving inadequate academic advising prior to departure from their home country rated their training the lowest of all the subgroups (mean = 3.26).

Table 17. Effect of academic advising prior to leaving home country on relevance of education to national agricultural development goals. Comparison by type of employer.

	Relevance of Education to National Agriculture Development Goals (range: 5 = very relevant; 1 = very irrelevant)			
	Adequacy of Academic Advising Prior to Departure from Home Country			
Type of Employer	Adequate	Inadequate	Did Not Receive	Overall Mean
Government (n=72)	3.72 (n=30)	3.26[b] (n=15)	3.70[c] (n=22)	3.59[a]
Parastatal (n=51)	3.82 (n=18)	3.94[b] (n=15)	3.67[d] (n=18)	3.80[a]
Other (n=7)	3.79 (n=4)	4.83[b] (n=2)	4.22[cd] (n=1)	4.15[a]
Combined Mean (n=130)	3.76 (n=52)	3.62 (n=37)	3.70 (n=41)	

[a] significant at $p<.05$
[b] significant at $p<.05$
[c] significant at $p<.05$
[d] significant at $p<.05$

The presence or adequacy of academic advising in the U.S. and its effect on relevance is outlined in Table 18. There were significant differences (p<.05) between each of the employer groups with respect to their perceptions of the relevance of their graduate training to national agricultural development goals. Employees of firms other than governmental or parastatal, who had received adequate academic advising in the U.S., rated their training as the most relevant to national agricultural development goals (mean = 4.14). This was significantly higher than those for both government (mean = 3.79) and parastatal (mean = 3.77) groups. Once again, the numbers (n=6) are small and interpretation of their significance must be qualified as such.

Governmental employees who reported receiving inadequate U.S. academic advising (n=7) reported their training as somewhat irrelevant to their country's national agricultural development goals (mean = 2.79). This is significantly different (p<.05) from the mean of 4.17 reported by parastatal employees who also reported receiving inadequate academic advising (n=7). These data show that type of employer does make a difference in the perceptions of relevance according to Duncan's analysis. Therefore, hypothesis 2e is rejected.

Eighty-five percent of the respondents who listed "other" as their employer (n=6) reported receiving adequate academic advising in the U.S. This compared to 69 percent of governmental employees and 76.5 percent of parastatal employees. Overall only 10.8 percent of respondents reported receiving no academic advising while in the U.S. and 16.3 percent received inadequate advising.

Table 18. Effect of academic advising while studying in the U.S. on relevance of education to national agricultural development goals. Comparison by type of employer.

	Relevance of Education to National Agriculture Development Goals (range: 5 = very relevant; 1 = very irrelevant) Adequacy of Academic Advising While Studying in the U.S.			
Type of Employer	Adequate	Inadequate	Did Not Receive	Overall Mean
Government (n = 71)	3.79^{b} (n = 49)	3.50^{c} (n = 15)	2.79^{e} (n = 7)	3.57^{a}
Parastatal (n = 51)	3.77^{d} (n = 39)	3.65 (n = 5)	4.17^{e} (n = 7)	3.81
Other (n = 7)	4.14^{bd} (n = 6)	4.22^{c} (n = 1)	No Response	4.15^{a}
Combined Mean (n = 129)	3.76 (n = 94)	3.57 (n = 21)	3.48 (n = 14)	

[a] significant at $p < .05$
[b] significant at $p < .05$
[c] significant at $p < .05$
[d] significant at $p < .05$
[e] significant at $p < .05$

Summary

This chapter began with an examination of the demographic characteristics of the two samples. These data provided a thumbnail sketch of the samples based on characteristics such as: age, gender, education of parents, major while studying in the U.S., and type of employer. In addition, this chapter included the initial analysis of relevance data for the two countries (Long et al, 1991). The remainder of the chapter included the results from the hypothesis testing.

This study was designed to determine if academic advising/counseling had an effect on the perceptions of relevance of U.S. graduate education to individuals from Tanzania and Malawi. The study sought to answer three questions listed below:

Research Questions

1. What effect if any does academic advising have on the relevance of graduate education to career and national agricultural development goals?

2. Is there a difference among perceived relevance for those individuals who reported adequate advising as opposed to those who report inadequate advising or no advising at all?

3. What effect, if any, do the demographic variables of age, gender, and occupation have on the students' view of the adequacy of academic advising and their perception of the relevance of education?

To address those questions, two main hypotheses, with 5 specific parts each, were constructed and tested. These hypotheses addressed the relevance of U.S. graduate education to career goals and national agricultural development goals. They were constructed to examine the role of academic advising on relevance and the influence of demographic variables on relevance.

> Hypothesis 1 (H_1): There is no difference in the perceived relevance of training to career goals based on the two independent variables and three extraneous variables:

Independent Variables

a. presence and/or adequacy of academic advising prior to departure from home country
b. presence and/or adequacy of academic advising in the U.S.

Extraneous Variables

c. gender
d. age
e. type of employer after returning to home country

Data regarding the relevance of U.S. graduate education to career goals were presented in Tables 3 - 10. Tables 3 and 4 also included a restatement of the means for relevance based on country. This information was previously reported in Long et al (1991) but served as a good comparison. No significant differences ($p < .05$) were noted in any of the subsections of Hypothesis 1. Thus it was found that the presence and/or adequacy of academic advising, both prior to departure and in the host country, does not significantly impact relevance of education to career goals. There were no significant differences on the relevance of graduate education to career goals based on the demographic variables of age, gender and type of employer. Therefore, Hypothesis 1a - 1e were accepted.

> Hypothesis 2 (H_2): There is no difference in the perceived relevance of training to national agricultural development based on two independent variables and three extraneous variables:

Independent Variables

a. presence and/or adequacy of academic advising prior to departure from home country
b. presence and/or adequacy of academic advising in the U.S.

Extraneous Variables

c. gender
d. age
e. type of employer after returning to home country

Data regarding the relevance of U.S. graduate education to national agricultural development goals were presented in Tables 11 - 18. Tables 11 and 12 also included a restatement of the means for relevance based on country. Long et al (1991) previously reported the significant differences ($p < .05$) between means for the relevance of education to national agricultural development based on country. The data served as a good comparison in this analysis, as well.

There were no significant differences ($p<.05$) on the relevance of graduate education to national agricultural development based on the presence and/or adequacy of academic advising, either prior to departure or while in the U.S. In addition, the demographic variables of age and gender did not significantly influence the perceptions of relevance to national agricultural development goals. Therefore, Hypothesis 2a - 2d were accepted.

However, a significant difference in relevance means was noted based on the type of employer. Individuals employed by agencies other than government or parastatal agencies, including private companies and self-employed, rated their training as significantly more relevant to national agricultural development goals. Therefore, Hypothesis 2e was rejected.

Chapter 5

Summary, Conclusions, and Recommendations

Introduction

The purpose of this chapter is to summarize the study as a whole, to examine the conclusions to be drawn from the data, to make recommendations for practice based upon the findings, and to explore possibilities for further research into the area of academic advising and its effect on the relevance of education. The first section of this chapter summarized the study, including the purpose, methodology, and results. Following the summary, the next section included discussion and conclusions drawn from the study. Finally, recommendations for practice and for further study were addressed.

Summary of the Study

Purpose

The purpose of this study was to examine the effect of academic advising on the perceptions of relevance of U.S. graduate education to career and national agricultural development goals for students from Tanzania and Malawi. The study built upon the work done by Acker (1988) in Tanzania and Long et al (1991) in Malawi.

The study sought to answer three questions listed below:

Research Questions

1. What effect if any does academic advising have on the relevance of graduate education to career and national agricultural development goals?

2. Is there a difference among perceived relevance for those individuals who reported adequate advising as opposed to those who report inadequate advising or no advising at all?

3. What effect, if any, do the demographic variables of age, gender, and occupation have on the students' view of the adequacy of academic advising and their perception of the relevance of education?

Two main hypotheses, with 5 specific parts each, were constructed and tested to address the research questions. These hypotheses addressed the relevance of U.S. graduate education to career goals and national agricultural development goals. They were constructed to examine the role of academic advising on relevance and the influence of demographic variables on relevance.

Hypothesis 1 (H_1): There is no difference in the perceived relevance of training to career goals based on the two independent variables and three extraneous variables:

Independent Variables

a. presence and/or adequacy of academic advising prior to departure from home country
b. presence and/or adequacy of academic advising in the U.S.

Extraneous Variables

c. gender
d. age
e. type of employer after returning to home country

Hypothesis 2 (H_2): There is no difference in the perceived relevance of training to national agricultural development goals based on two independent variables and three extraneous variables:

Independent Variables

a. presence and/or adequacy of academic advising prior to departure from home country
b. presence and/or adequacy of academic advising in the U.S.

Extraneous Variables

c. gender
d. age
e. type of employer after returning to home country

Methodology

Trainees from Tanzania and Malawi who had received graduate education in the United States were surveyed to determine the relevance of that graduate education. The survey was developed by David Acker (1988) for use in Tanzania in 1987 and slightly modified for use in Malawi in 1990. Eighty-six responses from Tanzania and fifty-eight from Malawi were coded and analyzed based on the presence or adequacy of the academic advising they received prior to departure from their home country and while studying in the U.S. Means for survey questions which addressed the relevance of U.S. graduate training to career and national agricultural development goals were calculated. One-way analysis of variance (ANOVA) was used to determine differences among the means for each subgroup with respect to academic advising and perceived relevance.

Responses were further analyzed based on each of three demographic variables: gender, age and type of employer, to determine if those variables affect perceived relevance. The means for career and national relevance were compared and tested once again using t-tests, one-way analysis of variance, two-way analysis of variance, and Duncan's tests. A statistical significance of .05 was used to determine acceptance or rejection of hypotheses.

Results

Results of the analysis of academic advising on relevance to career goals included a restatement of the means for relevance based on country as was previously reported in Long et al (1991) for comparison. No significant differences ($p < .05$) were noted in any of the subsections of Hypothesis 1. Thus it was found that the presence and/or adequacy of academic advising, both prior to departure and in the host country, does not significantly impact relevance of education to career goals. There were no significant differences on the relevance of graduate education to career goals based on the demographic variables of age, gender and type of employer. Therefore, Hypothesis 1a - 1e were accepted.

Results of the analysis of academic advising on relevance to national agricultural development goals also included a restatement of the means for relevance based on country. Long et al (1991) had previously reported a significant difference ($p < .05$) between means for the relevance of education to national agricultural development goals based on country. The data served as a good comparison in this analysis, as well.

There were no significant differences ($p < .05$) on the relevance of graduate education to national agricultural development goals based on the presence and/or adequacy of academic advising, both prior to departure and while in the U.S. In addition, the demographic variables of age and gender did not significantly influence the perceptions of relevance to national agricultural development goals. Therefore, Hypothesis 2a - 2d were accepted.

However, a significant difference in relevance means was noted based on the type of employer. Individuals employed by agencies other than government or parastatal agencies, including private companies and self-employed, rated their training as significantly more relevant to national agricultural development goals. Therefore, Hypothesis 2e was rejected.

Limitations

The major limitations of this study concerned the size of the sample and the instrument used. The sample size was 144 (86 respondents from Tanzania and 58 from Malawi). Due to lack of response to some of the questions, total number of respondents in some instances dropped as low as 129. Because of these low numbers and the fact that the respondents were from a specific region of the world, the results are not generalizable. The differences between the responses from each country illustrate that results may not be generalized to the whole region, but merely to those specific countries.

The survey was developed as a result of an extensive review of literature by Acker (1988). It asked respondents to reflect back on their training and determine how relevant it is to their current jobs and to their country's national agricultural development goals. No reliability or validity tests were performed to determine if the survey actually measured relevance or if it was reliable. The survey was not specifically designed to examine the various aspects of academic advising/counseling and, therefore, the results of this study should be interpreted with caution.

Discussion and Conclusions

According to the results of this study, U.S. graduate education in agriculture was more relevant to the students' career goals than it was for their countries' national agricultural development goals. In addition, the presence and/or adequacy of academic advising did not significantly effect their perceptions of relevance. There are many facets to the students from developing countries that must also be taken into account. This study found that gender and age did not significantly effect relevance or academic advising. However, a significant difference in relevance of programs to national agricultural development goals was noted based on type of employer. The lack of significant impact of academic advising on relevance, as well as the influence of demographic variables, opened up many questions about the nature of the U.S. institution, the role of graduate advising in relevant training, and the influence of individual student characteristics.

In the opinion of this author, one must take into consideration the nature of the U.S. university when examining the relevance of the U.S. graduate experience to students from developing countries. Institutions are often a product of the society in which they dwell. The values that exist in that culture will be emphasized in the university. Hence, the U.S. university reflects the values of the American culture namely: independence, individualism, and personal achievement. Many institutions of higher learning feel that their mission is to prepare the best individuals to go into the work place and thereby effect the changes for the greater good. These values of personal development and achievement, individualism and independence are not universally accepted. Other cultures place a higher value on education for the national good rather than for the individual alone.

Within the context of this study, when seeking to pose possible explanations for the differences in mean scores for the relevance of education to career goals vs. national agricultural development goals cultural differences should be considered. The emphasis of these African cultures on education for personal achievement or for the national good is a matter for further investigation. As a result of cultural differences, there could be a mismatch between these students goals and the underlying structure of the U.S. university environment. Amuzu-Kpelgo (1985) alluded to this possible mismatch in a study at Ohio University.

In addition, academic advisers play a role in helping the graduate student to negotiate a path through the university system on their way to a graduate degree. These advisers tend to propagate the values of the American culture rather than taking into account the values of students from other cultures. This could impact the effect of the academic advising system on the issue of relevance to career goals vs. national agricultural development goals.

The lack of differentiation between gender and age of the international students with respect to their perceptions of relevance was a positive finding of this study. Students from Tanzania and Malawi do not report significant differences in relevance of their graduate training based on gender or age. In addition, there were no significant differences with respect to the presence and/or adequacy of academic advising for the gender or age groups. The number of females and students under the age of 38 was quite small, however, this finding should support increasing those numbers.

Significant differences in the relevance of U.S. graduate education to national agricultural development goals were noted between the two countries being sampled. Tanzanians found their graduate education to be significantly more relevant than did Malawians. Further investigation is needed to pinpoint the reason for this difference. That investigation might pertain to the social and political environment of each country, or to the degree to which the individual understands and can impact national agricultural development goals with increased education. Long and Jimmerson (1990) and Trail (1990) stated specific national agricultural development objectives that have been outlined for Malawi. The degree to which individuals understand and can impact those goals in Malawi and Tanzania could result in an explanation for the differences noted in this study.

Finally, significant differences in the relevance of U.S. graduate education based on type of employer were found. Individuals who were employed by agencies other than government and parastatal agencies reported their education as significantly more relevant to national agricultural development goals that did the other two types of employer.

Government employees reported their training as the least relevant to national agricultural development goals. Eighty-eight percent of the respondents from Malawi were employed by government agencies, as compared to 37.6 percent from Tanzania. To determine the full significance of this finding, the bureaucracy of governmental agencies and the degree to which individuals feel they can influence national development should be examined. These findings could relate very closely to the differences reported with respect to country and political/social environment. In addition, Hughes (1987) reported that the private sector generally paid higher basic salaries than do government or parastatal employers. Salary level might have an effect on perceptions of the relevance of their training and thus could be one of the reasons for the difference noted.

Recommendations for Practice

1. It is recommended that academic advisers be informed of the degree objectives of the participant's program, both career objectives and possible influences on the development plan for the specific country. This could be accomplished by careful preparation of the training orders and dissemination of that information to the academic adviser.

2. It is recommended that advisers of students from developing countries have international experience, preferably in a developing country.

3. It is recommended that a greater effort be placed on pre-departure advising. During this process, training orders could be developed and the expectations of the student upon return could be outlined. Further detail on the needs of the educational program could be developed with input from the participant. These details should be documented for use at the U.S. university. This could provide the student and the U.S. adviser with a clearer view of the needs of the educational program.

4. The review of literature suggested a need for a three month adjustment period in the U.S. before beginning graduate study. This would allow the student to receive intensive English training and to adjust to the U.S. It is recommended that this adjustment period include not only language training, but orientation and socialization activities.

5. It is further recommended that U.S. universities develop interdisciplinary programs of study that address the needs and issues of the developing world.

Recommendations for Further Study

1. Further study is recommended to explore in detail the possible reasons for the findings of this study regarding the effect of academic advising on relevance. Studies could focus on the cultural barriers in the

adviser/student relationship, the mechanics of the advising process, or the university as a vehicle of the prevailing culture and how that impacts the advising process.

2. A parallel study should be designed and administered with U.S. graduate students to determine the effect of academic advising on the perception of relevance of their graduate education. This would examine any differences between U.S. and international graduate students in the advising process and perceptions of relevance.

3. A qualitative study should be conducted with individuals from this study to allow them to elaborate on their perceptions of relevance, the U.S. university system, and academic advising.

4. It is recommended that the results from the study in Tanzania and Malawi be further compared on the basis of other demographic and programmatic variables to detertmine their possible effects on relevance. Those could include: degree level, contact with home country while studying in the U.S., major of study, and university at which education was completed.

Concluding Statement

The findings from this study were somewhat of a surprise to this author. Although the hypotheses were written in the null format, it was anticipated that academic advising would significantly effect the relevance of U.S. graduate education. It remains to be determined whether the results of this study were due to problems within the advising system or the sensitivity of the instrument used to gather the information. Further investigation should be undertaken before any broad interpretation of these findings are made.

The author was pleased to find that there were no differences in the perceptions of relevance based on age or gender. Although the numbers were small, it was positive to note that the educational experience was not significantly different for males and females regardless of their age.

As a result of this type of research, U.S. universities are beginning to address the issue of relevance of educational programs to the needs of developing countries. More attention is being paid to the notion that the university needs to adapt its programs to make them more relevant. In the past, it was always the student who did the adapting. Studies like this can assist the U.S. universities, their international programs offices, their academic departments, and individual faculty members in achieving more relevant training. The U.S. institutions can no longer afford to ignore the relevance issue for students from the developing world. Each player in this process, U.S. universities, development sponsors and placement agencies, students from developing countries, and their home countries, can benefit by increased emphasis on providing relevant education for the world.

As is the case in much of the research being conducted, this study generated more questions than it answered. However, as a result of this inquiry, one is able to fine tune some of the questions that need to be answered in order to shed more light on the issue of relevance.

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Appendices

Appendix A

Cover Letters and Survey

Tanzanian Sample

1988

Office of International Research and Development

Oregon State University
Oregon State University • Snell Hall 400 •
Corvallis, OR 97331-1641 • USA
Telephone: (503) 754-2228 Telex: 510 596 0686 OSU CID COVS ESL 62819595

April 24, 1988

Dear

As a graduate degree holder from the U.S., you have been selected to participate in an important research study on the relevance of U.S. agricultural education for Tanzanian students. The study will utilize feedback from alumni such as yourself to help improve program offerings to future students from your country.

As you may recall, I worked with the Ministry of Agriculture and Livestock Development from 1980 - 1986 with both the Farmer Training and Production Project and the Farming Systems Project. I am now serving as coordinator of this study involving the Ministry of Agriculture and Livestock Development, U.S.A.I.D., and Oregon State University.

It is estimated that it will take 30 minutes to complete the questionnaire. In order to express my personal gratitude to you for taking the time to complete and promptly return this questionnaire, an incentive will be provided. On the day that your questionnaire is received, I will select and mail you a new publication in the field of agricultural development.

Completing and returning this questionnaire is voluntary but your answers are of critical importance to the success of this survey. What you provide to me will be kept strictly confidential. You will note that an identification number has been included on your form. This will enable us to send follow-up notices without bothering those who respond immediately. It also enables us to send you the gift of a new publication to say thanks for your help.

Please take a moment to complete and return the questionnaire in the enclosed envelope. I would appreciate if you would please return the completed form as soon as possible. Thank you very much for helping.

Sincerely,

David G. Acker,
Survey Coordinator

Questionnaire forms should be returned to: Agricultural Alumni Survey, Human Resource Development and Training Office, U.S.A.I.D., P.O. Box 9130, Dar es Salaam.

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF AGRICULTURE & LIVESTOCK DEVELOPMENT

Telegrams. "Kilimo" Dar es Salaam.
Telephone 27231.
In reply please quote.
Ref. No. KI/E.30/23

Research and Training Division
Pamba House,
P.O. Box 9192,
DAR ES SALAAM.

April 4, 1988

Dear

RE: RELEVANCE OF U.S. HIGHER AGRICULTURAL EDUCATION AS PERCEIVED BY TANZANIAN ALUMNI OF U.S. COLLEGES OF AGRICULTURE

As you are aware of the United States in cooperation with many countries and other agencies have been providing university education to many participants from the developing countries of which Tanzania is included.

So far there has not been any efforts made to appraise the relevance of higher agricultural education offered in the United States to back home work situation of the returned participant.

The office of International Research and Development of Oregon State University is making the first attempt to conduct a study to find out to what extent U.S. Higher Agricultural Education is of relevance as perceived by Alumni of U.S. Colleges of Agriculture. Outcome of this study will assist in the development of future training programs.

As one of the Alumni of a U.S. agricultural College you have been chosen to participate in this study effort. Its success will depend on your assistance in completing and mailing the enclosed Questionnaire.

.../2

It is expected that thr published results of this study will be shared with you in the form of exchange of scientific information.

Your promptness will be greatly appreciated.

Sincerely Yours,

M. E. L. Nziray
for PRINCIPAL SECRETARY

RELEVANCE OF U.S.
AGRICULTURAL EDUCATION

AGRICULTURAL ALUMNI SURVEY
1988

CONDUCTED BY:

OFFICE OF INTERNATIONAL RESEARCH AND DEVELOPMENT
OREGON STATE UNIVERSITY
U.S.A.

PLEASE RETURN COMPLETED QUESTIONNAIRE TO:

AGRICULTURAL ALUMNI SURVEY
HUMAN RESOURCES AND DEVELOPMENT TRAINING OFFICE
USAID, P.O. BOX 9130
DAR ES SALAAM

SECTION I: EDUCATION AND CAREER

1) This section deals with the relevance of your U.S. agricultural education to your career. For each of the educational experiences in the table below, please:

A. Indicate the degree of emphasis the educational experience received in your U.S. training program:

1 - VERY MAJOR EMPHASIS
2 - MAJOR EMPHASIS
3 - MINOR EMPHASIS
4 - VERY MINOR EMPHASIS
5 - NO EMPHASIS

B. Indicate how relevant the educational experience has been to your career since returning from studies in the U.S.

1 - VERY RELEVANT
2 - SOMEWHAT RELEVANT
3 - NEITHER RELEVANT NOR IRRELEVANT
4 - SOMEWHAT IRRELEVANT
5 - VERY IRRELEVANT

Circle the number that best represents your rating in both columns A and B.

	A. Emphasis in Training					B. Relevance to Career				
	VERY MAJOR	MAJOR	MINOR	VERY MINOR	NONE	VERY RELEV	SOME RELEV	N	SOME IRREL	VERY IRREL
TRAINING IN YOUR DISCIPLINE										
a. Theory covered in your discipline . . .	1	2	3	4	5	1	2	3	4	5
b. Laboratory experience in your discipline	1	2	3	4	5	1	2	3	4	5
c. Practical application of skills in your discipline	1	2	3	4	5	1	2	3	4	5
d. Coursework which emphasized international (non-U. S.) topic	1	2	3	4	5	1	2	3	4	5
e. Interdisciplinary courses on development problems	1	2	3	4	5	1	2	3	4	5
RESEARCH										
f. Training in theory of research design, data collection, and analysis	1	2	3	4	5	1	2	3	4	5
g. Laboratory experience in research design, data collection, and analysis.	1	2	3	4	5	1	2	3	4	5
h. Practical application of skills in research design, data collection, and analysis	1	2	3	4	5	1	2	3	4	5
i. Training in use of laboratory equipment	1	2	3	4	5	1	2	3	4	5
j. Training in reading and understanding research	1	2	3	4	5	1	2	3	4	5
k. Training in writing-up research results	1	2	3	4	5	1	2	3	4	5
l. Research on Tanzania development problems	1	2	3	4	5	1	2	3	4	5

SECTION I: EDUCATION AND CAREER (CONTINUED)

	A. Emphasis in Training					B. Relevance to Career				
	VERY MAJOR	MAJOR	MINOR	VERY MINOR	NONE	VERY RELEV	SOME RELEV	N	SOME IRREL	VERY IRREL
MANAGEMENT TRAINING										
m. Training in theory of management of agricultural and rural development programs	1	2	3	4	5	1	2	3	4	5
n. Practical application of skills in the management of agricultural and rural development programs	1	2	3	4	5	1	2	3	4	5
o. Training in personnel management . . .	1	2	3	4	5	1	2	3	4	5
p. Training in policy formulation	1	2	3	4	5	1	2	3	4	5
SOCIAL SCIENCE AND KNOWLEDGE TRANSFER SKILLS										
q. Training of trainers	1	2	3	4	5	1	2	3	4	5
r. Training in theory of human development	1	2	3	4	5	1	2	3	4	5
s. Training in effective classroom teaching	1	2	3	4	5	1	2	3	4	5
t. Training in human relations skills . . .	1	2	3	4	5	1	2	3	4	5
u. Training in theory of social change processes	1	2	3	4	5	1	2	3	4	5
v. Practical application of skills in the social change process	1	2	3	4	5	1	2	3	4	5
w. Training in theory of extension education and communication	1	2	3	4	5	1	2	3	4	5
x. Practical application of skills in extension education and communication	1	2	3	4	5	1	2	3	4	5
y. Personal interactions with members of American society	1	2	3	4	5	1	2	3	4	5
PROJECT ANALYSIS/EVALUATION										
z. Training in theory of project analysis and evaluation	1	2	3	4	5	1	2	3	4	5
aa. Practical application of skills in project analysis and evaluation	1	2	3	4	5	1	2	3	4	5
bb. Training in project accounting	1	2	3	4	5	1	2	3	4	5

2) Do you have any suggestions on how U.S. universities could improve the quality of graduate training provided to future students from Tanzania? Please comment:

____

____

____

SECTION II: RELEVANCE OF EDUCATION TO AGRICULTURAL DEVELOPMENT

3) *This section deals with the relevance of your U.S. agricultural education to the National agricultural development objectives of Tanzania.* For each of the agricultural development objectives stated below:

A. Indicate the degree of emphasis this objective received in your U.S. training program:

1 - VERY MAJOR EMPHASIS
2 - MAJOR EMPHASIS
3 - MINOR EMPHASIS
4 - VERY MINOR EMPHASIS
5 - NO EMPHASIS

B. Indicate how relevant your U.S. education was to the following National agricultural development objectives of Tanzania:

1 - VERY RELEVANT
2 - SOMEWHAT RELEVANT
3 - NEITHER RELEVANT NOR IRRELEVANT
4 - SOMEWHAT IRRELEVANT
5 - VERY IRRELEVANT

Circle the number that best represents your rating in both columns A and B.

	A. Emphasis in Training					B. Relevance of Training				
	VERY MAJOR	MAJOR	MINOR	VERY MINOR	NONE	VERY RELEV	SOME RELEV	N	SOME IRREL	VERY IRREL
SOCIAL OBJECTIVES										
a. Developing an agricultural society based on socialism and self-reliance	1	2	3	4	5	1	2	3	4	5
b. Attaining food self-sufficiency . . .	1	2	3	4	5	1	2	3	4	5
c. Improving the nutritional standards of the people	1	2	3	4	5	1	2	3	4	5
d. Stimulating and sustaining the improvement of rural standards of living	1	2	3	4	5	1	2	3	4	5
TECHNICAL OBJECTIVES										
e. Encouraging the consumption of staples by improving production techniques and delivering such staples in palatable and attractive form through appropriate processing	1	2	3	4	5	1	2	3	4	5
f. Developing a versatile pool of agricultural experts to self-sufficiency level	1	2	3	4	5	1	2	3	4	5
g. Developing irrigation agriculture . .	1	2	3	4	5	1	2	3	4	5
TRADE OBJECTIVES										
h. Improving production capacities of foods so that food becomes the major item of internal and international trade	1	2	3	4	5	1	2	3	4	5
i. Emphasizing the production of horticultural crops and spices by developing strong national and international markets	1	2	3	4	5	1	2	3	4	5
j. Generating foreign exchange through increased exports of cash crops, food crops, and processed agricultural products	1	2	3	4	5	1	2	3	4	5

SECTION III: BACKGROUND INFORMATION

Question	Last job before most recent degree training in U.S.	First job after return from most recent degree training in U.S.	Current job
4) Job Title:	__________ YOUR TITLE	__________ YOUR TITLE	__________ YOUR TITLE
5) Number of persons for whom you provide direct technical supervision	______ NUMBER	______ NUMBER	______ NUMBER
6) Is your position a policy making position (circle one number in each column)	1 YES 2 NO	1 YES 2 NO	1 YES 2 NO
7) Number of years in job	______ YEARS	______ YEARS	______ YEARS
8) Is the relevance of your U.S. university training to your job (Circle one number in each column)		1 HIGH 2 MEDIUM 3 LOW	1 HIGH 2 MEDIUM 3 LOW
9) Percent of knowledge formally acquired through U.S. university training which was/is utilized in job		______%	______%
10) Main activity of your organization (circle one number in each column). . .	1 RESEARCH 2 TRAINING & EDUCATION 3 PLANNING & ADMINISTRATION 4 EXTENSION: CREDIT/AGRIC./ COOPS/NUTRITION, ETC. 5 PRODUCTION AGRICULTURE 6 OTHER: __________	1 RESEARCH 2 TRAINING & EDUCATION 3 PLANNING & ADMINISTRATION 4 EXTENSION: CREDIT/AGRIC./ COOPS/NUTRITION, ETC. 5 PRODUCTION AGRICULTURE 6 OTHER: __________	1 RESEARCH 2 TRAINING & EDUCATION 3 PLANNING & ADMINISTRATION 4 EXTENSION: CREDIT/AGRIC./ COOPS/NUTRITION, ETC. 5 PRODUCTION AGRICULTURE 6 OTHER: __________
11) Type of employer (self, government, parastatal, private,) (circle one number in each column) . .	1 SELF 2 GOVERMENT 3 PARASTATAL 4 PRIVATE 5 OTHER: __________	1 SELF 2 GOVERMENT 3 PARASTATAL 4 PRIVATE 5 OTHER: __________	1 SELF 2 GOVERMENT 3 PARASTATAL 4 PRIVATE 5 OTHER: __________
12) Job title of your immediate technical supervisor:	__________	__________	__________
13) Please list your major responsibilities in this job:			

14) Up to the present, where have you spent most of your life? (Circle one number):

1 ON A FARM
2 IN A NON-FARM RURAL HOME
3 IN A VILLAGE OF LESS THAN 2,000 PEOPLE
4 IN A TOWN OF 2,000 - 5,000 PEOPLE
5 IN A TOWN OF 5,000 - 50,000 PEOPLE
6 IN A CITY OF OVER 50,000 PEOPLE

15) Please list the countries you have visited and indicate the dates and length of stay in months.

NAME OF COUNTRY	DATES	NUMBER OF MONTHS
a.		
b.		
c.		
d.		

16) For each type of degree listed below, please indicate the period of training, major field, name of institution, primary source of funding, and whether you completed the degree.

TYPE OF DEGREE	TRAINING PERIOD START	TRAINING PERIOD FINISH	MAJOR FIELD OF STUDY	NAME OF INSTITUTION	PRIMARY SOURCE OF FUNDING	COMPLETED? YES OR NO
a. DIPLOMA						
b. BACHELOR'S						
c. MASTER'S						
d. DOCTORATE						
e. OTHER (SPECIFY)_____						

17) During your U.S. training period, how frequent was your contact with home institutions?: (Circle one number)

1 VERY FREQUENT
2 FREQUENT
3 INFREQUENT
4 VERY INFREQUENT

18) Did you have a job waiting for you when you returned from training in the U.S.?: (Circle one number)

1 YES
2 NO

19) Did you receive adequate or inadequate academic counseling?: (Circle one number for a and b)

	ADEQUATE	INADEQUATE	DID NOT RECEIVE
a. PRIOR TO DEPARTURE FOR U.S.?	1 Yes	2 No	3
b. WHILE STUDYING IN THE U.S.?	1 Yes	2 No	3

20) Below is a list of ways one might or might not update their training. Please indicate whether or not you have used each to update your technical knowledge since returning from training in the U.S. (Circle the number).

	YES HAVE	NO HAVE NOT
a. ACCESS TO JOURNALS	1	2
b. NEWSLETTERS	1	2
c. ATTENDING SHORT COURSES	1	2
d. CORRESPONDANCE WITH PROFESSIONALS	1	2
e. VISITS BY FACULTY FROM YOUR UNIVERSITY	1	2
f. VISITS BY FACULTY FROM OTHER UNIVERSITIES	1	2
g. ATTENDING PROFESSIONAL MEETINGS	1	2
h. CONTACT WITH INTERNATIONAL RESEARCH CENTERS	1	2
I. OTHER ________________________________	1	2

21) How would you rate the overall relevance of your U.S. university training to the agricultural development objectives of Tanzania? (Circle one number.)

1 VERY RELEVANT
2 SOMEWHAT RELEVANT
3 NEITHER RELEVANT NOR IRRELEVANT
4 SOMEWHAT IRRELEVANT
5 VERY IRRELEVANT

22) How many professional people including yourself, report directly to your immediate technical supervisor? (If you do not have an immediate supervisor, please skip to question 23)

____
NUMBER

22a. How many, altogether, have received long-term training from a developed country?

____
NUMBER

SECTION III: BACKGROUND INFORMATION (CONTINUED)

23) In what year will you be eligible for retirement?

______
YEAR

24) What is the highest level of education completed by each of your parents? (Circle the number)

	FATHER	MOTHER
NO FORMAL EDUCATION	(1)	(1)
PRIMARY EDUCATION	(2)	(2)
'O' LEVEL SECONDARY EDUCATION (FORM IV)	(3)	(3)
'A' LEVEL SECONDARY EDUCATION (FORM VI)	(4)	(4)
POST-SECONDARY TRAINING	(5)	(5)
UNIVERSITY - UNDERGRADUATE DEGREE	(6)	(6)
UNIVERSITY - POST-GRADUATE DEGREE	(7)	(7)
DON'T KNOW	(8)	(8)

25) What is your year of birth?

______
YEAR

26) What is your sex? (Circle one number)

1 MALE
2 FEMALE

27) What is your nationality?

____

28) Have you ever been engaged in farming/production agriculture? (Circle one number.)

1 YES
2 NO

29) Do you have any other comments to make about the relevance of your U.S. educational experience?

Please complete all sections of this questionnaire and return it to the Human Resources Development and Training Office, USAID, P.O. Box 9130, Dar es Salaam. Thank you!

Appendix B

Cover Letters and Survey

Malawian Sample

1990

Telegrams: Moagric, Lilongwe
Telephone: Lilongwe 733 300

Communications should be addressed to:
The Secretary for Agriculture

In reply please quote No. Ref. 33/23/1

MINISTRY OF AGRICULTURE
P.O. BOX 30134
LILONGWE 3
MALAWI

11 May 1990

To: Chief Agricultural Research Officer, (Att: Dr. E. Ntokotha)

Chief Agricultural Officer, (Att: Mr. D. Yiwombe)

Chief Veterinary Officer, (Att: Mr. D. Kampani)

SDS

: AgPTrO file (2 extra copies)

IMPACT EVALUATION STUDY OF THE LONG TERM PARTICIPANTS UNDER WORLD BANK, USAID, AND OTHER DONOR FUNDING

World Bank, USAID, and other donors have requested the Ministry to conduct an Impact Evaluation Study of Long Term Participants at the M.Sc. and Ph.D. level. MOA management has approved the proposal and has requested the ATB to conduct the survey.

Your strong support and encouragement of officers in your unit to participate in the study is essential. The results of the study will be used to assist in preparing a training needs report. This report will be presented to donors in the near future to assist the MOA in securing the needed financial resources to train personnel at the M.Sc. and Ph.D. levels required during the next 5 years.

Attached to this letter is a set of questionnaires to be distributed to the officers indicated on the Master List. The questionnaire is accompanied by a specific cover letter from the ATB with full instructions to the participants in the survey. The ATB has also written the name of each officer to be included in the study on the top of the cover letter. Please distribute the questionnaire and accompanying letter to each officer as soon as possible. A complete list of all of the officers identified for the study is also included for your reference.

The completed questionnaires are to be returned to: Secretary for Agriculture (Att: Dr. T. Trail, T.A.), P.O. Box 30134, Lilongwe 3. These instructions have also been indicated to the participants in the cover letter.

Timing is extremely important in this study. The completed surveys should be returned to the ATB by 20 June 1990.

Again, it is essential that the questionnaires be completed and returned on time. The data is required for ATB to complete the report. We anticipate that the report will be crucial in obtaining additional support for training in the future.

Thomas F. Trail

Dr. T. Trail, T.A.
For: SECRETARY FOR AGRICULTURE

Attached: as stated above

In reply please quote No. ..Ref....33/23/3..........

Telegrams: Minagric, Lilongwe
Telephone: Lilongwe 733 300

Communications should be addressed to:
The Secretary for Agriculture

MINISTRY OF AGRICULTURE
P.O. BOX 30134
LILONGWE 3
MALAWI

11 May 1990

To: Officers Who Have Participated in Long Term Overseas Training

Dear Participant,

You have been selected to participate in a very important study. The results of your contribution will be included in a Training Needs Report that will be presented to management and donors. We believe that the report will be crucial in obtaining additional financial support from donors to fund additional M.Sc. and Ph.D. scholarships for the Ministry.

Please fill out the attached questionnaire as soon as possible and return it directly to: Secretary for Agriculture, (Attention: Dr. T. Trail, T.A.), P.O. Box 30134, Lilongwe 3. The questionnaire should be returned by 20 June.

Your assessment of the impact and relevancy of your long term academic experience will assist the Ministry and donor groups in developing the next 5 year training plan. Your responses will remain confidential so please be as frank and honest as you can about the training you received and its relevance to your work. Your contribution is greatly appreciated.

Dr. T. Trail, T.A.
For: SECRETARY FOR AGRICULTURE

Attached: as stated above

Secretary for Agriculture
P.O. Box 30134
Lilongwe 3 Malawi

April, 24 1990

Dear Sir

As a graduate degree holder from the U.S., you have been selected to participate in an important re-seach study on the relevance of U.S. agricultural education for Malawian students. The study will utilize feedback from alumni such as yourself to help improve program of offerings to future students from Malawi. This is part of an overall evaluation of the training component of NRDP V.

It is estimated that it will take 30 minutes to complete the questionnaire. In order to express our personal gratitude to you for taking the time to complete and promptly return this questionnaire, an incentive will be provided. A copy of the results will be sent to you.

Completing and returning this questionnaire is voluntary but your answers are of critical importance to the success of this survey. What you provide will be kept strictly confidential. You will note that an identification number has been included on your form. This will enable us to send follow-up notices without bothering those who respond immediately.

Please take a moment to complete and return the questionnaire in the enclosed envelope. We would appreciate if you would please return the completed form as soon as possible. Thank you very much for helping.

Sincerely,

Thomas F. Trail

Dr. T.Trail
Survey Coordinator

Questionnaire forms should be returned to: The Secretary for Agriculture, P.O. Box 30134, Capital City Lilongwe 3, Malawi. Attention Dr. T. Trail, ATB.

RELEVANCE OF U.S. AGRICULTURAL EDUCATION TO MALAWI PARTICIPANTS

AGRICULTURAL ALUMNI SURVEY
1990

CONDUCTED BY:

SECRETARY FOR AGRICULTURE
P. O. BOX 30134
LILONGWE 3, MALAWI

PLEASE RETURN COMPLETED QUESTIONNAIRE TO:

AGRICULTURE ALUMNI SURVEY
SECRETARY FOR AGRICULTURE
P. O. BOX 30134
LILONGWE 3, MALAWI
(ATT: Dr. T. TRAIL, ATB)

SECTION 1: EDUCATION AND CAREER

1) This section deals with the relevance of your agricultural education to your career. For each of the educational experiences in the table below, please:

A. Indicate the degree of emphasis the educational experience received in your U.S. training program

1 - VERY MAJOR EMPHASIS
2 - MAJOR EMPHASIS
3 - MINOR EMPHASIS
4 - VERY MINOR EMPHASIS
5 - NO EMPHASIS

B. Indicate how relevant the educational experience has been to your career since returning from studies in the U.S.

1 - VERY RELEVANT
2 - SOMEWHAT RELEVANT
3 - NEITHER RELEVANT NOR IRRELEVANT
4 - SOMEWHAT IRRELEVANT
5 - VERY IRRELEVANT

Circle the number that best represents your rating in both columns A. AND B.

	A. Emphasis in training					B. Relevance to career				
	VERY MAJOR	MAJOR	MINOR	VERY MINOR	NONE	VERY RELEV	SOME RELEV	N	SOME IRREL	VERY IRREL
TRAINING IN YOUR DISCIPLINE										
a. Theory covered in your discipline	1	2	3	4	5	1	2	3	4	5
b. Laboratory experience in your discipline	1	2	3	4	5	1	2	3	4	5
c. Practical application of skills in your discipline	1	2	3	4	5	1	2	3	4	5
d. Coursework which emphasized international (non-U.S.) topic	1	2	3	4	5	1	2	3	4	5
e. Interdisciplinary courses on development problems	1	2	3	4	5	1	2	3	4	5
RESEARCH										
f. Training in theory of research design data collection,and analysis	1	2	3	4	5	1	2	3	4	5
g. Laboratory experience in research design, data collection and analysis	1	2	3	4	5	1	2	3	4	5
h. Practical application of skills in research design,data collection,and analysis	1	2	3	4	5	1	2	3	4	5
i. Training in use of laboratory equipment	1	2	3	4	5	1	2	3	4	5
j. Training in reading and understanding reseach	1	2	3	4	5	1	2	3	4	5
k. Training in writing-up research results	1	2	3	4	5	1	2	3	4	5
l. Research on Malawi development problems	1	2	3	4	5	1	2	3	4	5

SECTION 1: EDUCATION AND CAREER (CONTINUED)

	A. Emphasis in Training					B. Relevance to Career				
	VERY MAJOR	MAJOR	MINOR	VERY MINOR	NONE	VERY RELEV	SOME RELEV	N	SOME IRREL	VERY IRREL
MANAGEMENT TRAINING										
m. Training in theory of management of agriculture and rural development programs	1	2	3	4	5	1	2	3	4	5
n. Practical application of skills in the management of agriculture and rural development programs	1	2	3	4	5	1	2	3	4	5
o. Training in personnel management	1	2	3	4	5	1	2	3	4	5
p. Training in policy formulation	1	2	3	4	5	1	2	3	4	5
SOCIAL SCIENCE AND KNOWLEDGE TRANSFER SKILLS										
q. Training of trainers	1	2	3	4	5	1	2	3	4	5
r. Training in theory of human development	1	2	3	4	5	1	2	3	4	5
s. Training in effective classroom teaching	1	2	3	4	5	1	2	3	4	5
t. Training in human relations skills	1	2	3	4	5	1	2	3	4	5
u. Training in theory of social change processes	1	2	3	4	5	1	2	3	4	5
v. Practical application of skills in the social change process	1	2	3	4	5	1	2	3	4	5
w. Training in theory of extension education and communication	1	2	3	4	5	1	2	3	4	5
x. Practical application of skills in extension education and commmunication	1	2	3	4	5	1	2	3	4	5
y. Personal interactions with members of American society	1	2	3	4	5	1	2	3	4	5
PROJECT ANALYSIS/EVALUATION										
z. Training in theory of project analysis and evaluation	1	2	3	4	5	1	2	3	4	5
a. Practical application of skills in project analysis and evaluation	1	2	3	4	5	1	2	3	4	5
b. Training in project accounting	1	2	3	4	5	1	2	3	4	5

2) Do you have any suggestions on how U.S. universities could improve the quality of graduate training provided to future students from Malawi? Please comment:

SECTION II: RELEVANCE OF EDUCATION TO AGRICULTURAL DEVELOPMENT

3) This section deals with the relevance of your U.S. agricultural education to the National Rural Development Project development objectives of Malawi . For each of the agricultural development objectives stated below:

A. Indicate the degree of emphasis this objective received in your U.S. training program:

1. VERY MAJOR EMPHASIS
2. MAJOR EMPHASIS
3. MINOR EMPHASIS
4. VERY MINOR EMPHASIS
5. NO EMPHASIS

B. Indicate how relevant your U.S. education was to the following National Rural Development Project Objectives of Malawi.

1. VERY RELEVANT
2. SOMEWHAT RELEVANT
3. NEITHER RELEVANT NOR IRRELEVANT
4. SOMEWHAT IRRELEVANT
5. VERY IRRELEVANT

Circle the number that best represents your rating in both columns A. and B.

	A Emphasis in Training					B Relevance of Training				
	VERY MAJOR	MAJOR	MINOR	VERY MINOR	NONE	VERY RELEV	SOME RELEV	N	SOME IRREL	VERY IRREL
SOCIAL OBJECTIVES										
a. Developing an agricultural society based on attaining food self-sufficiency for smallholder farms.....	1	2	3	4	5	1	2	3	4	5
b. Improving the nutritional standards of the people......	1	2	3	4	5	1	2	3	4	5
c. Stimulating and sustaining the improvement of rural standards of living......	1	2	3	4	5	1	2	3	4	5
TECHNICAL OBJECTIVES										
d. Encouraging the consumption of staples by improving production techniques and delivering such staples in palatable and attractive form through appropriate processing......	1	2	3	4	5	1	2	3	4	5
e. Developing a versatile pool of agriculture experts to self-sufficiency level......	1	2	3	4	5	1	2	3	4	5
f. Developing irrigation agriculture.......	1	2	3	4	5	1	2	3	4	5
TRADE OBJECTIVES										
g. Improving production capacities of food so that food becomes the major item of internal and international trade......	1	2	3	4	5	1	2	3	4	5
h. Emphasizing the production of horticultural crops and spices by developing strong national and international markets......	1	2	3	4	5	1	2	3	4	5
i. Generating foreign exchange through increased exports of cash crops , and processed agricultural products......	1	2	3	4	5	1	2	3	4	5

SECTION III BACKGROUND INFORMATION

Question	Last job before most recent degree training in U.S.A.	First job after return from most recent degree training in U.S.A.	Current job
4) Job Title	________ YOUR TITLE	________ YOUR TITLE	________ YOUR TITLE
5) Number of persons for whom you provide direct technical supervision	________ NUMBER	________ NUMBER	________ NUMBER
6) Is your position a policy making position (circle one number in each column)	1 YES 2 NO	1 YES 2 NO	1 YES 2 NO
7) Number of years in job	________ YEARS	________ YEARS	________ YEARS
8) Is the relevance of your U.S. university training to your job (circle one number in each column)............................		1 HIGH 2 MEDIUM 3 LOW	1 HIGH 2 MEDIUM 3 LOW
9) Percentage of knowledge formally acquired through U.S. university training which was/is utilized in job......................		________ %	________ %
10) Main activity of your organization (circle one number in each column	1 RESEARCH 2 TRAINING AND EDUCATION 3 PLANNING & ADMINISTRATION 4 EXTENSION: CREDIT/AGRIC./ COOPS/NUTRITION, ETC. 5 PRODUCTION AGRICULTURE 6 OTHER ________	1 RESEARCH 2 TRAINING AND EDUCATION 3 PLANNING & ADMINISTRATION 4 EXTENSION: CREDIT/AGRIC./ COOPS/NUTRITION, ETC. 5 PRODUCTION 6 OTHER ________	1 RESEARCH 2 TRAINING & EDUCATIO 3 PLANNING & ADMINIST 4 EXTENSION: CREDIT/AG COOPS/NUTRITION, ETC 5 PRODUCTION AGRIC 6 OTHER ________
11) Type of employer (self, government, parastatal, private) (circle one number in each column)	1 SELF 2 GOVERNMENT 3 PARASTATAL 4 PRIVATE 5 OTHER ________	1 SELF 2 GOVERNMENT 3 PARASTATAL 4 PRIVATE 5 OTHER ________	1 SELF 2 GOVERNMENT 3 PARASTATAL 4 PRIVATE 5 OTHER ________
12) Job title of your immediate technical supervisor..................	________	________	________
13) Please list your major responsibilities in this job............................			

SECTION III: BACKGROUND INFORMATION (CONTINUED)

14) Up to the present, where have you spent most of your life? (Circle one number):

1 ON A FARM
2 IN A NON FARM RURAL HOME
3 IN A VILLAGE OF LESS THAN 500 PEOPLE
4 IN A TOWN OF 500 - 5,000 PEOPLE
5 IN A TOWN OF 5,000 - 35,000 PEOPLE
6 IN A CITY OF OVER 35,000 PEOPLE

15) Please list the countries you have visited and indicate the dates and length of stay in months.

NAME OF COUNTRY	DATES	NUMBER OF MONTHS
a.		
b.		
c.		
d.		

16) For each type of degree listed below, please indicate the period of training, major field, name of institution, primary source of funding, and whether you completed the degree.

TYPE OF DEGREE	TRAINING PERIOD		MAJOR FIELD OF STUDY	NAME OF INSTITUTION	PRIMARY SOURCE OF FUNDING	COMPLETED? YES OR NO.
	START	FINISH				
a. DIPLOMA						
b. BACHELOR'S						
c. MASTER'S						
d. DOCTORATE						
e. OTHER (SPECIFY) _____						

17) During your U.S.A. training period, how frequent was your contact with home institutions?: (Circle one number)

1 VERY FREQUENT

2 FREQUENT

3 INFREQUENT

4 VERY INFREQUENT

SECTION III: BACKGROUND INFORMATION (CONTINUED)

18) **Did you have a job waiting for you when you returned from training in the U.S.?: (Circle one number)**

1 YES

2 NO

19) **Did you receive adequate or inadequate academic counselling?: (Circle one number for a and b)**

	ADEQUATE	INADEQUATE	DID NOT RECEIVE
a. PRIOR TO DEPARTURE FOR U.S.?	1 YES	2 NO	3
b. WHILE STUDYING IN THE U.S.?	1 YES	2 NO	3

20) **Below is a list of ways one might not update their training. Please indicate whether or not you have used each to update your technical knowledge since returning from training in the U.S. (Circle the number)**

		YES HAVE	NO HAVE NOT
a.	ACCESS TO JOURNALS	1	2
b.	NEWSLETTERS	1	2
c.	ATTENDING SHORT COURSES	1	2
d.	CORRESPONDENCE WITH PROFESSIONALS	1	2
e.	VISITS BY FACULTY FROM YOUR UNIVERSITY	1	2
f.	VISITS BY FACULTY FROM OTHER UNIVERSITIES	1	2
g.	ATTENDING PROFESSIONAL MEETINGS	1	2
h.	CONTACT WITH INTERNATIONAL RESEARCH CENTERS	1	2
i.	OTHER ____________	1	

21) **How would you rate the overall relevance of your U.S. university training to the agricultural development objectives of Malawi (Circle one number).**

1 VERY RELEVANT
2 SOMEWHAT RELEVANT
3 NEITHER RELEVANT NOR IRRELEVANT
4 SOMEWHAT IRRELEVANT
5 VERY IRRELEVANT

22) **How many professional people including yourself, report directly to your immediate technical supervisor? (If you do not have an immediate supervisor, please skip to question 23)**

____
NUMBER

22a. **How many, altogether, have received long-term training from a developed country?**

____
NUMBER

SECTION III: BACKGROUND INFORMATION (CONTINUED)

23) **In what year will you be eligible for retirement?**

____
YEAR

24) **What is the highest level of education completed by each of your parents? (Circle the number)**

	FATHER	MOTHER
NO FORMAL EDUCATION	(1)	(1)
PRIMARY EDUCATION	(2)	(2)
'O' LEVEL SECONDARY EDUCATION (FORM IV)	(3)	(3)
'A' LEVEL SECONDARY EDUCATION (FORM VI)	(4)	(4)
POST SECONDARY TRAINING	(5)	(5)
UNIVERSITY - UNDERGRADUATE DEGREE	(6)	(6)
UNIVERSITY - POST GRADUATE DEGREE	(7)	(7)
DON'T KNOW	(8)	(8)

25) **What is your year of birth?**

____
YEAR

26) **What is your sex? (Circle one number)**

1 MALE
2 FEMALE

27) **What is your nationality?**

____

28) **Have you ever been engaged in farming/production agriculture? (Circle one number)**

1 YES
2 NO

29) **Do you have any other comments to make about the relevance of your U. S. education experience?**

SECTION IV : PERSONAL/PROFESSIONAL SKILLS

This section deals with how well your US agricultural education to improved your personal skills in providing motivation and direction for those you supervise. For each of the following items please rate your US training based on the degree to which it has increased your abilities in the following areas: (Circle the number that best represents your rating).

	Has your US training increased:	Not at all		Somewhat		To a great extent
1.	Your ability to present information to a group	1	2	3	4	5
2.	Your ability to interact one-on-one	1	2	3	4	5
3.	Your ability to write clearly	1	2	3	4	5
4.	Your ability to facilitate group discussion	1	2	3	4	5
5.	Your ability to motivate individuals	1	2	3	4	5
6.	Your ability to motivate groups	1	2	3	4	5
7.	Your ability to understand peoples' learning styles	1	2	3	4	5
8.	Your ability to model desired behavior	1	2	3	4	5
9.	Your ability to make groups feel empowered	1	2	3	4	5
10.	Your ability to see possibilities and/or opportunities	1	2	3	4	5
11.	Your ability to help others see their skills, abilities and/or potential	1	2	3	4	5
12.	Your ability to learn as a self-directed learner	1	2	3	4	5
13.	Your ability to set and reinforce value and quality standards	1	2	3	4	5

SECTION IV: PERSONAL/PROFESSIONAL SKILLS (CONTINUED)

		Not at all		Somewhat		To a great extent
14.	Your ability to get accurate information from people	1	2	3	4	5
15.	Your ability to use problem solving strategies	1	2	3	4	5
16.	Your ability to help others solve problems	1	2	3	4	5
17.	Your ability to plan work	1	2	3	4	5
18.	Your ability to help others plan	1	2	3	4	5
19.	Your ability to assess needs	1	2	3	4	5
20.	Your ability to prioritize job goals and tasks	1	2	3	4	5
21.	Your ability to set objectives	1	2	3	4	5
22.	Your ability to evaluate progress	1	2	3	4	5
23.	Your ability to influence others	1	2	3	4	5
24.	Your ability to work with supervisors	1	2	3	4	5
25.	Your ability to work with subordinates	1	2	3	4	5
26.	Your ability to conduct meetings	1	2	3	4	5
27.	Your ability to organize job tasks	1	2	3	4	5
28.	Your ability to locate resources	1	2	3	4	5
29.	Your ability to utilize available resources	1	2	3	4	5
30.	Your ability to assess results	1	2	3	4	5

SECTION IV: PERSONAL/PROFESSIONAL SKILLS (CONTINUED)

	Not at all		Somewhat		To a great extent
31. Your ability to develop and monitor budgets	1	2	3	4	5

Do you have any suggestions about how US Universities could improve training related to improving participants' personal/professional skills?

Please complete all sections of this questionnaire and return it to the Secretary for Agriculture, P.O. Box 30134, Lilongwe 3, Malawi.

Appendix C

Malawian Training Policy

NRPD V Programme

MALAŴI
TRAINING
POLICY

April 1989

PREAMBLE:

The crucial place of human resources in every facet of national development is unquestioned. The process of manpower planning, training, and utilization is indispensable to the effective mobilization and development of all national resources. The unique place of our manpower in national development has been stated and emphasixed on many occasions, dating back before independence to the 1961 Election Manifesto of the Malaŵi Congress Party.

Since independence in 1964, the aims and objectives of the Malaŵi Government have necessarily changed in response to new, urgent, and often critical issues. Inevitably, these issues have required the re-appraisal of priorities in the allocation of scarce resources. In the process, any re-allocation of resources, irrespective of size or complexity, often, in turn, has an immediate impact on the manpower of the nation. Furthermore, as the Malaŵi Government responds with flexibility to the pressures and demands of the future, changes in the range and types of human resources become necessary. The quality of these responses and changes depends on many factors, but the most important are the strength of the institutions, both public and private, charged with the management of the work force, the capability of the work-force itself, and above all, the formulation of clear guidelines on manpower training and development.

1.0 INTRODUCTION

1.1 The strategy for Malaŵi's development is set out in the "Statement for Development Policies (DEVPOL)." It provides guidance on Government policies and a framework for long development planning. DEVPOL, which is a Statement of Intent, is supplemented by a flexible three-year "rolling" public-sector investment programme, which is revised annually in order to take changing circumstances into account.

1.2 The fundamental principles and objectives of the development policy pursued by Malaŵi are as follows:–

1.2.1 an open-door economy;
1.2.2 emphasis on agricultural development aimed at food self-sufficiency, increasing foreign exchange earnings and savings, and improving rural life and income;
1.2.3 removal of regional imbalances in development;

1.2.4 strengthening of the role of the private sector, with particular attention to encouraging the growth of Malaŵian entrepreneurs; and

1.2.5 mobilization and effective management of both public and private sectors resources.

1.3 To further these principles and objectives, the Government has set out in this document a training policy for Malawi. This policy covers both public and private sector training in the context of Malawi's political and socio-economic order, and sets out broad policy guidelines as well as a strategy to accomplish these objectives, together with the institutional framework and co-ordination mechanisms necessary to put the strategy into action.

1.4 The training policy and its implementation will be monitored and reviewed periodically to take into account changing social and economic conditions.

2.0 OBJECTIVES OF THE TRAINING POLICY

2.1 The Government is fully committed to training as a key factor in the process of achieving manpower self-sufficiency in quantitative and qualitative terms, thereby maximizing the performance of both the public and private sectors of the nation. This commitment operates at political, legislative, organizational, management, and individual levels. In this respect, Government has drawn up the following broad objectives for training within the public and private sectors:–

- 2.1.1 to support and reflect the priorities outlined in the Statement of Development Policies;
- 2.1.2 to respond positively to the training needs of the people, especially those living in the rural areas, women, and the handicapped, so that they contribute positively to the development of the country;
- 2.1.3 to promote, where appropriate, a smooth transition to localization of manpower in both the public and private sectors.

2.2 This will be done in full awareness of the importance and urgency of reaching and then maintaining the optimum level of development and utilization of manpower, so that social and economic development is sustained.

3.0 TRAINING PRIORITIES

3.1 The demand for training tends to exceed the capacity and resources available to undertake such training. It is, therefore, essential that training priorities be determined, and explained to all Malawians, to ensure that the implications of the Government's objectives and policies are fully understood. The immediate training priorities are as follows:

- 3.1.1 systematic induction programmes for new employees as a foundation for subsequent related advanced training;

3.1.2 the provision of management development programmes for entrants to middle and high level management positions;

3.1.3 the allocation of resources for training in fields where qualified personnel is currently scarce, such as Medicine, Engineering, Accountancy, Architecture, Quantity Surveying, and other scientific and technical fields;

3.1.4 the allocation of resources for the acquisition and upgrading of technical and commercial skills; and

3.1.5 the allocation of resources to promote the development of cultural skills, such as those in the Fine and Performing Arts, Literature and Sports.

4.0 TYPES OF TRAINING

4.1 Training in both the public and private sectors falls into two categories – professional and technical, and administrative and managerial. Such training may be accoumplished at different levels, within the country or abroad, on or off the job, sponsored or self-funded.

5.0 IMPLEMENTATION OF POLICY OBJECTIVES

5.1 The Department of Personnel Management and Training in the Office of the President and Cabinet will pursue the goals and objectives of manpower development by:–

5.1.1 strengthening existing training institutions and where necessary, creating new ones, with clearly defined functions and responsibilities;

5.1.2 strengthening training capacity in both the public and private sectors, in particular the training of trainers;

5.1.3 rationalizing the utilization of resources available for training; and

5.1.4 removing all impediments to the training, recruitment, and utilization of women and handicapped persons.

6.0 OPERATIONAL STRATEGIES

6.1 As a sound basis for training, the Department of Personnel Management and Training in the Office of the President and Cabinet will:–

6.1.1 establish the need for training at all levels within the public sector, in consultation with the appropriate ministries and departments; and

6.1.2 rationalize and improve the recruitment process to ensure that a systematic induction programme is devised and implemented and that entrants are placed in posts for which their qualifications, expertise, and experience are relevant.

6.2 Where circumstances dictate, the Department of Personnel Management and Training in the Office of the President and Cabinet may have recourse to the use of expatriates to either fill a skills gap or substitute for training outside Malawi. Such use of expatriates will be linked to the training of Malawian counterparts in particular posts. Normally, the use of expatriates will be permitted only when a training role and responsibility are integral parts of the arrangement.

7.0 ROLE OF MALAWI GOVERNMENT IN TRAINING

7.1 The Government will be responsible for providing opportunities for training and development for members of the public sector and, as appropriate, the private sector. The Government will endeavour to create conditions for making training effective and will allocate resources to support training consistent with other priorities. It recognizes that, without adequate allocation of resources for training, the full potential of available manpower will not be realized.

7.2 The Government will endeavour to provide opportunities for training and development for its employees consistent with the demands of the tasks assigned to them in the course of their careers. The Government recognizes that training is not a one-time activity but rather a life-long process, to be offered at intervals throughout one's career.

7.3 In fulfilling its responsibility to plan, co-ordinate and monitor the implementation of policies and programmes for training Malawians, the Government, through the Department of Personnel Management and Training in the Office of the President and Cabinet, will:–

7.3.1 co-ordinate and approve all matters relating to training, including determination of training needs, scope, and standards and evaluation of training programmes for the public sector; and co-operate with the private sector in this regard;

7.3.2 assist, where necessary, and provide advisory services on the identification of training needs; and monitor and co-ordinate all training offered to public servants internally and externally;

7.3.3 prepare and disseminate information on training to both the public and private sectors; and assist Ministries in the preparation of training plans and staff development proposals;

7.3.4 in liaison with the private sector, initiate, plan, and promote, as necessary, periodic reviews of training centres and programmes in Malawi, to ensure their relevance to national objectives and tasks;

7.3.5 consider proposals for the establishment and expansion of specialist administrative/management and technical/professional training facilities;

7.3.6 recognize non-governmental training institutions or facilities relevant to the training of public servants and private sector employees;

7.3.7 encourage in-house training programmes in both the public and private sectors;

7.3.8 formulate policies and incentive to foster the development of public servants and private sector employees;

7.3.9 be responsible for regional and international collaboration in matters of training;

7.3.10 approve and/or facilitate all requests by Ministries and the private sector for training outside Malawi;

7.3.11 monitor the training by expatriates of their Malawian counterparts to ensure the transfer of appropriate skills;

7.3.12 encourage the implementation of language and orientation courses for expatriates;

7.3.13 mobilize financial and human resources for effective implementation of training programmes;

7.3.14 submit an annual report on all training activities to the Minister responsible for the Public Service;

7.3.15 participate in the International Scholarship Committee, which has overall responsibility for foreign scholarships available to Malawian nationals; and

7.3.16 liaise closely with the appropriate authorities in matters of recruitment of expatriate personnel, to ensure that skills gaps are identified and corrective measures taken.

8.0 ROLE OF INDIVIDUAL MINISTRIES/DEPARTMENTS IN TRAINING

8.1 Each Ministry/Department shall be responsible for:–

8.1.1 estimating its training needs and identifying persons requiring in-service training for professional development;

8.1.2 organizing and conducting the induction and specialist technical and professional training of its employees with the assistance, where appropriate, of the Department of Personnel Management and Training;

8.1.3 placing its employees in appropriate posts after training;

8.1.4 submitting to the Department of Personnel Management and Training proposals for the expansion of existing specialist or technical/professional training facilities within the Ministry /Department and for the creation of new facilities;

8.1.5 furnishing a comprehensive report to the Department of Personnel Management and Training at the end of each financial year, detailing significant aspects of training programmes undertaken, and their impact on the Ministry's/Department's performance;

8.1.6 submitting once every year, on request by the Department of Personnel Management and Training, detailed plans and requirements for specialist professional/technical training for the following year; and

8.1.7 liaising and co-operating with the Department of Personnel Management and Training in the implementation of all training policies and programmes.

9.0 THE ROLE OF THE PRIVATE SECTOR IN TRAINING

9.1 It is the Government's wish to co-operate with the private sector in the development and utilization of human resources, in the awareness of the fact that efficiency and profitability can be improved by considering employees as an important asset, and their training as inherent to the success of organizational development programmes. This policy statement, therefore, attempts to spell out the Government's recognition of the role of the private sector in human resources development and utilization as follows:–

9.1.1 The private sector is encouraged to develop all levels of personnel to their highest potential, within the limits of the framework of the specified organizational objectives.

9.1.2 The private sector should be encouraged to contribute financially towards the Malawi Government Sholarship Fund administered by the Department of Personnel Management and

Training of behalf of the Government. This contribution is aimed at boosting the resources available for training for thenefit of both public and private sector employees, emphasis being placed on training in those areas of skills scarcity requiring recruitment of school leavers for training.

9.1.3 The private sector should, where necessary, inform the Central Training Advisory Board of its manpower development and utilization policies.

9.1.4 The private sector is encouraged to seek advice on any aspect of human resources development from the Department of Personnel Management and Training, which will also continue to handle at national level clearance for overseas training.

10.0 INSTITUTIONAL FRAMEWORK FOR LOCAL TRAINING IN THE PUBLIC SECTOR

10.1 Training will be provided through a network of training institutions or training centres whose programmes will be co-ordinated and monitored by the Department of Personnel Management and Training. These institutions or centres may be categorized as follows:–

10.1.1 Specialized or technical training institutions within different Ministries/Departments;

10.1.2 Institutions or centres directly managed by the Department of Personnel Management and Training; and

10.1.3 Semi-autonomous institutions.

11.0 Two types of training institutions or centres are managed directly by the Department of Personnel Management and Training, namely, the Staff Training College and the Malaŵi Institute of Management.

12.0 OTHER INSTITUTIONS

12.1 The Department of Personnel Management and Training will collaborate with, and make use of the facilities of training institutions in the private sector.

13.9 ADMINISTRATIVE MACHINERY FOR CO-ORDINATION OF TRAINING

13.1 The co-ordination of training in Malaŵi is the responsibility of the Department of Personnel Management and Training. A number of administrative mechanisms will be used to facilitate this co-ordination.

3.2 A Central Training Advisory Board (CTAB) will monitor and advise on matters relating to training policy, training needs, and plans. The Chairman and the members of the Board will be appointed by the Office of the President and Cabinet. The Secretariat will be provided by the Department of Personnel Management and Training.

13.3 Ministry-based Training Committees will be responsible for overseeing the Ministry's or Department's training functions.

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